

EPA Region 5 Records Ctr.



237841

1.

# SITE LOG RECORD GREINERS LAGOON

7530-00-222-3525  
FEDERAL SUPPLY SERVICE  
(GPO)

8/26/87 weather: drizzly rain, high in 50/60s,  
wind less than 5 mph out of the west.

1000: OSCs Burke & Dolhopf arrive at the Holiday Inn and meet with RM Emlund and TAT Turnbull to discuss mobilization plans.

1015: All present leave Holiday Inn to go to site to continue mob. plans and operations

1040: Arrival at site, Cat D-4 is delivered at this time. OSCs Dolhopf and Burke meet with Widmers on the corner of the site (nearest property owners) to discuss plans and operation procedures with them.

1135: RM Emlund leaves site to meet with office trailer delivery personnel and purchase gravel to stabilize roadways leading to and around the site.

1215: OSCs and TAT figure approximate volume of gravel needed to reinforce roadway. Plans are still being discussed about where to locate office trailer, decon trailer, and crew trailer. Approximate volume = 280 cu/yds of gravel. Equipment operator John Carpenter continues to level the north east corner of the site so that the trailers may be set in place after the gravel arrives.

1300: OSC Burke and TAT Turnbull leave site to buy lunches.

1320: OSC Burke and TAT Turnbull arrive back on site after procuring lunch. Mae Corp Trailer

2.

M.W.T.

~~Trailer~~<sup>100</sup> arrives. R. Klawonn and ~~R. Meier~~ R. Tober from Toledo Edison arrive to discuss plans for hook-up of electricity. The OSCs state that it will be a 2-phase hook-up. The first phase is for office trailer and miscel. needs. The second phase is for the In-Situ-Vitrification.

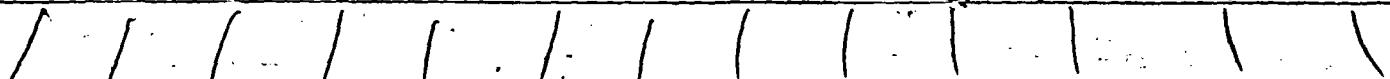
1330: Ward Rogers and Alan Roy from Calgon Carbon arrive on site, OSCs discuss the water treatment with them. The options presented are 1) three dispabsorption units in a parallel operation, 2) one large tank absorption unit. The pretreatment requirements are also discussed.

1540: John Molyet who farms the property adjacent to the site stops by the site and talks to the OSCs. He informs them that he leases the farm and tells the OSCs who to contact to find out about gaining more right of way access on the north/south road on the east side of the lagoons. OSCs leave site to talk to the owner of the land.

1630: All Personnel leave site. A meeting will take place back at the Holiday Inn with the OSCs, RM, and TAT present.

1730: Meeting takes place at OSC Burk's Hotel Room. The site safety plan and work orders / work reports are filled out.

1930: OSCs advise RM Emlund that if



\*Maecorp wants to bid on the water treatment system, the bid must be in by a reasonable time period ("as designated by OSC") because other bids state that they can be on site by Monday.

2000: OSC Dolhopf leaves for Grosse Isle.

2200: Meeting is adjourned. Site Secure.

Michael W. Turnbull

8/27/87 Weather: misty, cool; high in 50/60s  
wind variable 5-15 mph out of the north.

0730: OSC Burk, RM Emlund, TAT Turnbull, and operator Carpenter arrive on site.

0800: First 2 loads of gravel arrive on site.  
The remaining loads will be brought intermittently throughout the day.

0900: TATs Elise Allen and Bruce Baker arrive on site.

0915: OSC Burk finalizes agreement with farmer Molyet to widen the north/south road on the east side of the site.

1020: Port-a-Poties are delivered, and TATs Allen and Baker make a Hot zone entry to record any changes which have occurred since the last time EPA/TAT have been on site.

1115: TATs Allen and Baker exit Hot zone.

1300: Last deliveries of gravel arrive.

1320: All three TATs leave to purchase lunch orders for personnel on site.

1330: Office trailer is backed into place, but

4.

Once it is in place, it is observed that the trailer has a broken spring. <sup>MAT</sup> The trailer is leaning to one side, and entrance into it without some additional support may cause a safety problem

1445: TATs Allen and Baker leave site to purchase sampling supplies and go back to the motel to reacquaint themselves with the operation of a transit (inside, out of the rain so that there is no damage to this equipment).

17:45: OSC Buck, RM Emlund, and TATs Allen, Baker, and Turnbull have a work order / work report, Sampling plan meeting.

1910: Meeting adjourned. Michael W Turnbull

- need total roadway gravel

\* Reference to entry made 8-26-87: OSC did not request "bid" from MATCORP for water treatment. Options were presented to P.M. and was asked if MATCORP could meet requirements as stated by OSC.

RM. Emlund authorized to mob on 8-25-87 to begin arrangements for site operations - No considerable progress made.

8/28/87 weather: misty, rainy. High expected in 50s. Wind 5-10 mph out of north west.

0700: OSC, TATs, RM, and operator arrive on site. EPA personnel N. Lewis and J. Herman from the Cincinnati sites program (EPA) are also on site.

RM Emlund informs OSC Burk that the office trailer can not be properly stabilized due to the broken leaf spring and a bent axle. RM Emlund has another trailer coming down from the <sup>Rental Service</sup> MacCorp home office so that a switch may be made.

0915: TAT Allen EPA personnel N. Lewis and J. Hermann make an entry into the Hot zone for a visual survey of the site.

0945: Mark \_\_\_\_\_ from Danielak Electric Inc. arrived on site to obtain necessary information/site needs to put in a bid for electrical subcontracting for the office trailer.

1015: TAT Allen and N. Lewis and J. Hermann exit the Hot zone and have a meeting with OSC Burk about the site's program directives in regards to the In-Situ Vitrification operations.

1255: Bert Binder from Binder Electric arrived on site for information/site needs to formulate a bid.

1400: All personnel on site go back to the Hotel because the new trailer will not arrive today, plus the rain has steadily increased making site work very difficult. TATs will work on the Sampling plan back at the Hotel.

b.

RM will continue to make support zone arrangements (trailer, decon tanks, etc.)

1700 TATs complete paperwork and first draft of sampling plan.

1715 TAT Allen to work order meeting. RM informs TAT that PCS has departed with bid sheets. He requests that he have until Monday or Tuesday to recreate the bids.

- New PCS coming in late Saturday.
- PCS that departed did not leave records of what will be delivered this weekend
- RM is trying to contact suppliers for information.

1915 Work order meeting over.

E Allen

NOTE: Small (2' diameter) brush clearer was brought onsite but after approximately five minutes of operation the motor stopped working and could not be restarted. The unit was returned to the rental company.

1245-1400 OSC, RM and two TATs offsite for phone calls and errands.

E Allen

1230 Conversation w/ OSC Bulk, B. Bowden - US EPA and Todd Reuning - MAECORP : - MAECORP will be doing all of the water treatment do to contract stipulations. Chemist will come into town tonight - be on site at 0700 tomorrow to begin treatment design.

- Analytical Bids will be gathered by TAT info shared w/ MAECORP - PCS for Bid sheets - OSC & RM shall decide on lab - OSC approval. PCS will confirm arrangements w/ vendor chosen
- S.S.P. shall be modified by OSC to be site specific - be able to cover all possible future and present on-site personnel.

\*\* Statement to file by OSC : Use of MAECORP exclusively for water treatment will result in addition time and money expenditures. Foreseen problems with design, mobilization and operation. — ECB —

8.

Saturday August 29, 1987 - Cool + foggy  
in AM. Sunny in late morning and  
Afternoon.

0700 RM, operator, OSC, three TATs and  
MAECORP Chemist Karl Yost arrive  
onsite.

- Site specific information is dis-  
cussed with Chemist Yost. The possible  
treatment design is discussed along  
with analytical results and discharge  
parameters.

0830 The first gravel truck arrives. The  
road running along the eastern border  
~~so~~ has been graveled and a staging  
area for the treatment area is being  
cleared.

0900 K. Yost, RM + OSC enter hot zone and  
view site. Several water samples are  
pulled for treatability tests.

- TATs using surveying equipment  
to begin mapping site. Baseline  
being shot down the eastern edge  
and northern edge.

0930 Personnel exit hot zone.

0945 TAT Turnbull departs to meet OSC  
Dollingsworth at ~~at~~ Holiday Inn.

1045 OSC and TAT return.

1200 MAECORP personnel take 1/2 hour lunch break.

1230 Operator back to work.

1245 Paul Karolens, MAECORP Health and Safety Officer, arrives onsite to finalize safety plan.

1415 J. Speed, MAECORP Driver / Tech, arrives with decon trailer. Trailer is placed in the general location.

1430 J. Speed departs for Toledo to pick up office trailer.

- Cleaning of site continues with tractor pulled unit.

- TATs working on mapping with survey equipment.

- MAECORP Chemist is doing rough treatability experiments on samples pulled this morning. He also goes over possible treatment schematics with OSCs and RM.

~1530 P. Karolens departs site for return to Chicago.

- Thrasher blade support is snapped and site clearing operations are halted. Operator ~~not~~ moves back to clearing treatment support area.

1545 OSC Hollingsworth departs site

1600

TWO TATS into hot zone to place stakes for first areas of sampling on lagoon 4.

- Two one liter samples of lagoon water pulled by TATS for off-site MAECORP treatment analysis.

1730

All personnel depart site.

1930

RM, OSC, MAECORP Chemist and TATS Baker and Allen hold work order meeting.

- Roughly 318 tons of gravel were received (12 truck loads) and placed along the eastern road.

- Work order meeting stopped

— Ealler.

2000 OSC Burk talked w/ officers from Lucas Co. Sheriff's Dept. Ser. Pitot stated that "he" would not let us pick up trailer. Later in conversation he stated that he would contact his superior to see what he says and call me back.

- MAECORP employee J. Speed while attempting to pick up office trailer at arranged supplier in Toledo - was detained by the Lucas Co. Sheriff's Dept. - was questioned and kept for ap. 3 hrs. was then instructed to return trailer. Trailers were marked as MAECORP. However, even though he attempted to I.D. himself as a govt. contractor on an emergency response, he was denied the trailer pick-up.

Maecorp chemist stated that plan presented to OSC, for water treatment was sufficient to meet discharge criteria. All mob would be handled efficiently.

System would be set-up ASAP, however, the last possible day for complete set-up is Thurs. 9-3-87. And the system would be able to treat water when site is mob on the following Tues. — ECB —

Sunday 8/30/1987. weather: clear, sunny high expected in 80s. wind speed variable 2-10 mph out of the south. —

0700: OSCs, Burk and Hollingsworth, RMEmlund, TATs Allen, Baker, and Turnbull, Maecorp workers Geile, Carpenter, and Speed arrive on site. Safety Meeting is held. The hazards addressed at the meeting were: unstable lagoon banks, debris throughout the site, and tall weeds, besides the potentials for chemical contamination. —

0730: The following work is initiated: — preparation of the decon trailer, temporary rigging on the ~~tractor~~ support, and preparing the office trailer for removal. —

0930: TATs Baker and Turnbull make an entry into the Hot zone to air monitor and radiation monitor. All readings on the periphery of the site were less than 1 ppm on the Hm. All readings on the rad meter were (.01 m/s/h) background.

12.

1000: TATs exit the hot zone.

OSCs, Hollingsworth and Burk, RM Emlund and TAT Allen have a meeting which covers: site safety plan, air monitoring, emergency phone numbers, site sampling plan.

1030: TATs Baker and Turnbull leave site to procure sampling supplies (distilled water, stakes, fluorescent paint, and tongue depressors).

1200: TATs Baker and Turnbull return.

1230: MaeCorp workers break for lunch.

1300: MaeCorp workers continue with mowing the weeds in lagoon #4, and off loading supplies from the 2-ton into the decon trailer. OSCs, and TATs take their lunch break.

1400: TATs Allen, Baker and Turnbull enter the hot zone to 1) finish the sampling grid staking of markers and 2) sample at each marker. - Twenty four soil samples were taken.

1628: TATs exit hot zone.

1640: MaeCorp worker Carpenter pushes over the large white carbon <sup>adsorption</sup> ~~absorption~~ tank which was still remaining on site from previous <sup>OEP4</sup> ~~state~~ dewatering of lagoon operations. Carpenter used the

Cat D-4 for the tank stabilization.

1715 All personnel depart site.

E Allen

Monday August 31, 1987 Weather: Rainy in AM.

Sunny, breezy, mid 70s in PM.

0700 3TATs, RM, PCS, operator and Clean Tech all onsite. Guards car needs to be jump started which is done off of the A-ton truck.

- OSCs Burk and Hollingsworth arrive.
- Safety meeting held. Steps up hazards talked about.
- Operator and clean tech are moving equipment from around decon trailer so the hauler can be moved.
- They then measure the water treatment area for fencing (snowfence).

- Pcs procures Crane and gravel. —
- 0900 TAT's Allen and Baker enter wet zone to continue mapping.  
 - Operator working on treatment area. 4 loads of #57 limestone due today. First 2 loads delivered + being spread.
- Daz Daz. New trailer delivered. Clean tech cleaned trailer for use. He also used a-ton truck to move Decon trailer south along support zone.
- 1100 Four MAECORP employees arrive for water treatment system construction. These four people moved in two vehicles. There are presently six vehicles "onsite" for eight MAECORP employees. DSC Burk has authorized the passenger van (local rental), rental sedan #1 and one other vehicle for billing. The a-ton truck is W/C until Thursday demob.
- 1115 - MAECORP employees break for 1/2 hour lunch.
- 1205 Truck with two carbon cells, one clarifier and one poly tank arrives. Crane is onsite. Begin

unloading equipment.

- 1200 OSC Bulk departs. He is returning to Krieger Dumpsite near Cleveland, Ohio.  
- Afternoon spent by crane operator and four H<sub>2</sub>O treatment personnel unloading equipment from truck.  
Clarifier loaded with sand, and smaller components of treatment system.  
- Clarifier loaded so full that crane cannot lift a single unit. Each individual component is unloaded before clarifier is lifted off lowboy and set in treatment area.

- 1630 Crane departs.  
"Clean" H<sub>2</sub>O poly tank arrives. A new 2150 tank was purchased by MAECORP  
- Water for treatment system arrives.  
- Office trailer arrives.

- 1420 - United Telephone representative onsite. RM tells him we do not want buried cable, just a line run above ground.

- 1450 Amy Climo and Bob Manson, DEPA, arrive for site tour. OSC Hollingsworth explains site plans.

- 1525 DEPA personnel depart.  
- Carbon not to arrive until 1700.  
Carbon truck will be sent to the

hotel for the evening.

1730 - Guard onsite. All personnel depart  
2 AM

Bob Johnson of ODEPA stated when he was on site that the discharge ~~standards~~<sup>Standards</sup> for the site treatment system would be the same as for the creek the drain <sup>P.Z.L.Z.</sup> discharge would drain into (Indian Creek).

~~P.Z.L.Z.~~

Tuesday September 1, 1987 Weather: Sunny, clear, mid to high 60's.

0700 Crew, OSC, three TATs arrive, guard departs

- Calgon truck arrives. Carbon cell loading process begins.

0720 Danielsak electric arrives. Two electricians onsite to wire trailers. Generator was jump started and moved into position.

0845 R&R water onsite. Poly tank <sup>20</sup> had been filled yesterday but had already been <sup>completely</sup> <sup>P.Z.L.Z.</sup> pumped into the carbon truck. The water truck pumped <sup>P.Z.L.Z. additional water</sup> directly into the carbon truck.

0920 R&R water departs. Carbon truck contents are being blown into carbon cell.

- 0855 OK rental onsite with Bobcat for Maecor. OSC Bulk approved. Bobcat has left carrying bags of sand up for loading.
- 0950 TAT Allen onsite for phone calls.
- 1015 United Telephone Service onsite to lay lines.
- Operator clearing site.
  - One tech building decon area and running errands.
  - Electrical hookup continues.
  - Two techs, 1 foreman and 1 (NC) Ops manager continue to put together treatment area.
- 1052 RR water returns to deliver 4000 gallons of water.
- Generator had power delivered to office and crew trailers.
- 1200 TAT Allen returns.
- 1230 Todd Kenning, Maecor, arrives for site visit.
- 1330 TAT Turnbull departs site to return to Detroit office.
- 1345 Rural Service delivers diesel fuel. Tank delivered earlier.
- 1410 TAT Allen departs for hotel and phone calls.
- 1415 Crew lunch begins.

- 1445 Crew lunch over.
- Building decon area continues by operator and one tech. 2 techs and foreman continue construction of treatment system.
- 1500 Pumps being set on treatment system. Peagavel could not be located only limestone gravel which would change the pH of the water. The coarse gravel that was moved in for the sand filter was laid on the bottom of the filter followed by fine sand and then the coarser material.
- 1515 Newspaper reporter onsite.  
(News-Messenger).
- 1545 Poly tank pumped down to try and locate two missing gaskets. They cannot be located so two are being flown in from Chicago (nonkillable).
- Fencing of decon area begun.
  - 2500 gallon poly tank arrived.
  - Part of the treatment system.
- 1700 - Treatment chemicals (caustic and acid) are delivered.
- 1730 Security guard arrives. Crew, OSC + DSI depart.

Per conversation with OSC Burk, TAT Allen informed OSC Hollingsworth that the discharge ~~criteria~~<sup>standards</sup> for the site Water treatment system are ~~to~~<sup>P.Z.L.</sup> the Ohio water quality Standards for Warm Water Habitats. OSC Burk also informed TAT Allen of the parameters necessary for sampling and analysis prior to discharge of the treated water.

P.Z.L.

Wednesday September 02, 1987: Weather:

Overcast, low 60s, drizzly off on.

0700 Crew, 2 TATs and OSC Arrive. Guard departs. Safety meeting held. Decon procedures and overall safety is stressed. All onsite personnel have read and signed off on the draft safety plan.

0710 MacCormick Todd Kenning onsite.

0800 Mr Kenning departs site.

0830 Delivery of pallets for decon area arrived. Pallets unloaded into the decon line.

- This morning, water treatment crew continued to place sand in the sand filter using the bobcat bucket as a lift. The operator and remaining Clean tech are continuing to conduct the decon line and delineate the hot zone areas with snow fence. The treatment area is also being

fenced.

- Note: At 0700 two personnel shut down the generators to check fuel and water levels. All needed fluids were added.

0925 Danillak Electric onsite to install a new breaker for the electrical system.

0940 Danillak off site.

1040 Portajohns cleaner onsite.

1053 Portajohn cleaner departs site.

1050 First loadg water arrived.

1235 Second loadg water arrived.

- Crew lunch break begins.

1300 - Operator beginning to level piles of beet dirt on top of lagoons 1&2. Material being moved to the far west area and staged for further usage. The mounds of dirt are piles of beet dirt dumped during the lagoon capping phase. The material is being removed to the far western area of lagoon 1/2.

1500 Initial start up of the system is in progress. The pumps was placed in the lagoon. Water being recirculated from the clarifier back into the lagoon.

- TATs continue sampling for extent of contamination.

1730 Guard arrives. MAECORP, TAT, OSC depart.  
E Allen

P.Z.I.Z.

Thursday September 3, 1987 weather: sunny,  
moderate

0700 Guard departs. OSC, TATs, MAECORP personnel  
arrive. Safety meeting held. Dress out procedures  
discussed.

E Allen

0848 On Wednesday September 2, 1987, a U.S. EPA  
Superfund Clean Up sign was posted at the end of  
the office trailer. Also, signs which say "Warning,  
Hazardous Chemicals, Do Not Enter" were posted at  
intervals around the perimeter of the site - P.Z.I.Z.

Doug Langley from OK Rental on site to pick up  
rental equipment (Bob Cat and 5 KW generator) - entered site  
at 0840, left site at 0848. TATs Allen and Baker  
continue marking out <sup>grid</sup> ~~sample~~ stations along <sup>P.Z.I.Z.</sup> ~~St~~ lagoon <sup>1+2</sup> ~~the~~  
boundary. Operator continues to level beet dirt on top  
of lagoons 1 + 2. MAECORP Water Treatment Crew

Starting up system again for final adjustments before Sampling - Level C.

0900 Mark Lauer of Davidak Electric Co. left site. He arrived on site at 0830 to do some adjustments with the treatment system circuit box.

0905 TAT Allen enters treatment system hot zone - level C to take water sample. Sampling postponed for more adjustment. TAT Allen remains in hot zone for mapping and sampling for extent of contamination. TAT Baker assisting outside hot zone - level D. Dave Estep of MAECOEP left site (once treatment system was operating).

0910 Bob Irick of Buckeye Pipeline on site to see about marking out a line located along lagoon 4. From type of stake marking line and Mr. Irick's maps, it was determined that the Buckeye Pipeline does not cross this site at any point. The line by lagoon 4 is most likely for Columbia Gas of Ohio Inc. (as it is a gas line). OSC Hollingsworth called Columbia Gas - they will send a rep. out on Tuesday afternoon (09/08/87). Mr. Irick off site at 0925.

0920 C.C. Solender, Ballville Twp. Supervisor on site to check condition of road entering site. Road holding up well. Mr. Solender off site at 0930.

0930 Alan J. Hill of Seneca Disposal on site to deliver dumpster and pick up garbage. Off site at 0937.

1000 TAT Baker enters Hot zone, level A to continue assisting TAT Allen with extent of contamination mapping and sampling.

1100 OSC Burk arrives on-site. I moore of Columbia Gas of Ohio arrives on-site at 1110 - off site at 1115.

P.Z.Z.

- TAT Allen begins pulling water samples from treatment system. TAT Baker and OSC Hollingsworth pulling samples along the northern ditch.

- MAECORP personnel begin cleaning up for weekend. Generator is serviced.

- All MAECORP personnel, except RM, depart site.

- RM departs. TATs and OSCs working on paperwork and sample documentation

1330 - All personnel depart site. Security service is onsite.

E Allen

~~Saturday September 3<sup>rd</sup>~~

~~Friday September 4, 1987~~

- Security onsite.

~~Saturday September 5, 1987~~

- Security onsite.

~~Sunday September 6, 1987~~

- Security onsite.

~~Monday September 7, 1987~~

- Security onsite.

Tuesday September 8, 1987. Weather: Sunny,  
high 70s.

- 1200 Security onsite. OSCs Burk and Hollingsworth, MAECORP RM, PCS,  
 \* 4 techs, 1 operator, 1 Foreman + 2 TATs  
 onsite. ~~Two~~ Two techs sent back  
 to ~~toilet~~ hotel for night shift —  
 - Safety meeting held. Proper dress  
 out for treatment area and site  
 is discussed. Personnel are to wear  
 Level C protection in the treatment area.  
 Operator allowed to wear a white tyvek  
 in place of the yellow polycoated tyvek  
 - all personnel were walked through  
 the decon line —  
 - Operator is leveling the Shruberry-  
 ground lagoons 1+2 with the D-4. When  
 he completes that, he will ~~then~~  
 continue leveling the lagoons 1+2  
 area. —  
 - Two techs (night shift) return to hotel  
 - Foreman and two techs set up decon  
 area, run brands, start generator  
 and perform ~~work~~ work around the  
 treatment area. —  
 - Discussion held concerning 55s.  
 Because the MAECORP trailer was  
 brought out in disrepair, the

driver, a ton that mobbed it and trailer  
are all nonbillable.

- 2 ton truck returned to the site on  
Sat Aug 29 to mob the decon trailer  
but is to be nonbillable on Sun through  
Wednesday (Aug 30 - Sept 2) and again  
billable for demob on 9-3-87.

- 1645 TATs depart to pick up supplies.  
1730 MAECORP personnel depart site. Site  
secure, guard service is onsite.  
1745 OSCs Burk & Hollingsworth depart.  
E Allen

Wednesday September 9, 1987: weather. low  
60s, foggy. Overcast in afternoon  
0700 Guard departs. MAECORP day shift  
onsite with OSC Hollingsworth and TAT  
Allen. Safety meeting held. Dress  
out procedure and safety onsite  
stressed.

- Operator begins leveling shrubbery  
onsite around lagoon and back  
side of site (western area).  
0900 - Rest of crew laying hose and  
setting up for discharge.  
0905 Columbia Gas onsite to mark their  
gas line. Personnel drove down  
the front of the site to the pipe -

line.

0945 Porta john cleaning service onsite.

1025 Columbia Gas personnel depart.  
System started up. pHs are  
being adjusted as are flows.

- Operator finds what he believes is  
a capacitor on the SW corner of  
the lagoon 3. There was dirt around  
it and no obvious cables. A pic-  
tures were taken of it.

- A small, fuzzy animal was  
observed near the SW Shoreline.  
It was dead. Pictures were taken.

1130 - pH adjustment on the exit end of  
the clarifier is not occurring.  
Sulfuric acid is being added but  
the pH is not coming down. RM  
checks with G & G Glenwood personnel.  
Flow needs to be turned off periodically  
to allow adjustment.

1245 Crew lunch.

1320 - Messers Ron Schrack and Neil  
Drobay from ERM Midwest arrive,  
They are contractors hired by  
Aubrigg to monitor the cleanup.  
They were not really expected  
and OSC Hollingsworth checked  
with OSC Burk on their onsite

presence. They are to have no access to site files. They are to completely conform to the safety guidelines used at this site including PPE.

The Gentlemen read the safety plan but were not allowed access to any part of the site due to lack of steel toe work boots, hard hats or eye protection.

1400 ERM personnel depart site.

- Flow to ditch beginning. Minor adjustments made to hoses as they are handed.

1340 Tractor mower picked up. It was deconned 9/8/87 by operator.

1500 Operator departs site to pickup incoming tech. Time not billable to the government.

1630 Flow is running at an average of 30 gallons per minute. pH into the sand filter was 9.0 and discharge at the same point a time was at 10.0. J. Clark, McA Corp, was consulted. The retention time ~~time~~ is approximately 43 minutes per cell and overall start to finish treatment time over 2 hours, thus the sand filter pH was also taken. It was around 10 units.

The backup caustic pump was set up for use with acid but not installed. MaCorps foreman McAllister was lowering the influent clarifier pH to 10.5 and thus be able to lower the pH through the entire system. —

Effluent pH at 11-12.

2100 pH after clarifier at 7, had dropped to 4 but was adjusted. pH after sand filter at 10. Making adjustments to continue dropping pH. Informed OSC Hollingsworth of progress.

2230 pH after sand filter at 7, should take ~ 1 1/2 hours to see pH drop at effluent. MaCorps foreman McAllister left site. Lights powered by generator went out. Adequate lighting provided by remaining light. Performed air monitoring of site.

2400 Continue to monitor pH - check system every half-hour. pH after carbon tank at 8.5. ABC security switch out personnel. —

BWB —

\* Reference to entry Tuesday, September 8, 1987, 1200 hrs.  
Due to improper mobilization of personnel, there was one less Clean Tech on site. Therefore, all employees generally classified as a laborer will be filling in in part as a tech.

- Additional comment about E&M personnel on site:

OSC Hollingsworth provided hard hats for both men. However, they were not allowed on site because they lacked steel-toed work boots. While on site, the men took the liberty of trying to run the copy machine while OSC Hollingsworth was using the phone. — PZLZ!

Thursday September 10, 1987 weather slight overcast —

0015 EFFluent pH after carbon tank at 7.0. —

Lights powered by generator are working again. Crew taking dinner break.

0130 Continue treating water, pH holding at 7.0. Average flow for last 2 hours was 49 gpm. —

0330 Grew continues to monitor water treatment, pH ranging from 7 to 7.5 —

0430 TAT Baker doing Air monitoring. pH at influent clarifier stable at 10.5 and 7.0 at effluent end. After sand filter pH stable at 7.0. At effluent discharge pH 8.5.

0615 Average flow rate has dropped to 31 gpm. pH is staying stable. —

BWB —

0700 Day crew operator, foreman, RM, PCS, labors and 2 techs, OSC and TAT All arrive. Safety meeting held. New out procedures gone over with newly hired tech. —

0715 Night TAT departs.

0730 Night crew departs. —

0900 PHg effluent taken and at 7.0.

- Operator leveling brush on lagoons and leveling lagoon 1 area.

- Labores has provided maintenance for generator, cleaned up and restocked decon hailer and decon line.

1030 Air monitoring round. All levels at 0.2 units or lower. Lagoon level is notably lower. 49,000 gallons treated with the flow increasing as the day goes on. System equilibrates. A second acid pump was delivered. As the flow is increased, it will be placed on line.

- The poly sump was foaming causing a heavy foam to develop at the mixing occurs.

- Rural Service onsite to fuel up fuel tanks and equipment.

1220 - Photographer from News Messenger is a local newspaper, at the site to take pictures. The Photographer took pictures from the field along the eastern side of the site.

1230 Chew lunch.

Lunch is taken in two shifts due to personnel always needing to be watching the treatment system.

- ~ 1430 RM departs site for doctors office. RM has been experiencing flu like symptoms.
- Flow steadily increasing. pH staying around 7 at effluent.
- 1710 - Clarifier pH at 7<sup>1/2</sup>, poly sump pH at 6, effluent at 7.
- 1730 OSC, PCS, operator and laborer depart.
- . 1845 - Night crew arrives. Safety meeting held. Hospital directions gone over, procedures during thunderstorms gone over and dress out procedures gone over.
- 1900 Day crew departs.  
E Allen
- 2100 Water treatment continues. pH after sand filter 9.0. Effluent pH still at 7.0. Flow rate for last 4 hours is 68.0 gpm
- 2345 Air monitoring round at 2300. pH after sand filter has returned to 7.
- BWB
- Friday September 11, 1987 Weather
- 0100 Grew dinner
- Crew taking split dinner so to continue monitoring water treatment system. Flow remaining steady at ~ 65 gpm.
- BWB

Comments for 9-10-87

P.D.Y.

9-11-87 continued —

0400 PH and Flow remain steady. Crew monitoring pH every hour. Over 115,000 gallons have been treated and discharged.

0430 Trash pump went down, 2nd time tonight. Crew got pump going again. Stand by pump is available.

0600 Air monitoring round, reading at .2. PH after clarifier at 6-6.5. Effluent pH stable at 7.0. Effluent is still red colored.

0630 OSC Hollingsworth and Nick Longo arrives on site. Trash pump down again.

0635 TAT Allen and Giles Arrive on site —

BWB —

0700 Morning crew safety meeting held. Drilling protocols and safety during

drilling operations was gone over. MAECORP personnel were not expected to be involved with drilling operations but are to be aware of potential problems.

0812 Flow at ~90gpm.

- Drillers onsite. Rig needs water, using water from the clean poly tank until the water delivery arrives.
- Drillers, TAT's Allen and Giles and OSC drillingsworth enter hot zone to view sampling locations.

0855 Water delivery for site.

0930- Drilling begins in far SE corner of lagoon 4. Clay cap for first 3 1/2 feet followed by a shallow sludge layer and a clay ~~layer is 2 ft~~<sup>layer is 2 ft</sup> at approximately 6' deep. Because of clay bank, possibly passing contamination into a lower shale strata.

Because of the potential for providing an avenue for contamination to pass to lower shales, sampling was discontinued on this hole.

- The second hole was found to only contain clay to a depth of eight feet.
- Effluent pH at 7.0.
- Fehman informs OSC and TAT that he is increasing the clar-

ifier pH to 11 or 11.5. This will aid flocculation and possibly reduce the red color in the effluent.

1030 System still operating well.

- RM is sending operator to the well at 1300. The D-4 adjustment pin for the blade has broken and needs to be repaired. The D 4 is down until then. The piece of equipment is being left onsite until the drillers have completed drilling on bores 1 & 2, because the rig will need to be drug around the area.

1245 Christchurch.

1330 Operator departs.

1415 Drillers were deconnning the auger when the steam genney caught on fire. It will not be operable until repaired. The drillers are looking for a unit to continue decon. There are ~~sprinklers~~ rain showers predicted but it is not raining hard.

1500 ~~The~~ A replacement steam genney has been found and will be onsite by approximately 0800. The 8 drillers cannot work the rest of the day due to their

own mechanical problems so it has been agreed that the drillers "owe" the job '1/2 work day ~~to~~ (ie: they have worked '1/2 days).

- Foreman departs site for hotel. Sent to hotel for ~~short~~<sup>8:00</sup> longer time off since he worked extra hours ~~Fri-Sat~~<sup>8:00</sup> Wednesday to set up the treatment system.
- OSC Longo and TAT Giles depart site after drillers can no longer work.

1600 - Effluent pH at 7.0 units.

1730 - RM, PCS and laborer + OSC depart.

1900 - Night shift arrives. Safety meeting held. Safety protocol during down-storms with thunder + lightening was discussed.

EAllen

2030 Trash pump keeps going down. Hooked up backup pump. Crew continues to monitor water treatment system.

2315 Backup trash pump is pumping to fast, cannot be throttled back. Crew is going to fill up reactor tank and then shut off trash pump and ~~caustic~~<sup>34:3</sup> pumps. When reactor tank is half full crew will start up ~~both~~<sup>trash one</sup> pumps again. The caustic will be monitored to maintain the correct pH as it flows into the reactor at a much lower rate.

BWRSaturday September 12, 1987 weather

Received phone call from Ronald Schrack of Eern 6910h  
 He had questions regarding <sup>Personal</sup> safety equipment needed on site. OSC Hollingsworth provided him with that information. He was also told what documentation he would need to provide for compliance with OSHA Regulations for hazardous waste site on-site personnel.

In addition, Mr. Schrack was informed he must provide a projected schedule for the days/frequency he would like to be on site, to be projected over phase I, before his next visit (he thought would be Wed. 9/16/87). The video camera he wants to have on site may not be taken into the hot zone for safety/reason reasons.

Saturday September 12, 1987 weather overcast

0015 Crew taking dinner break.

Flow rate for last 6 hours is 45 gpm.

0030 Trash pump would not start up after being shut off when reactor was full. The original pump was put back in use with the spark plug being scraped off first. The water treatment system was down ~ 40 minutes

0300 Trash pump keeps quitting. Crew having troubles keeping pump going for more than 5-10 minutes. Have gone over 200,000 gallons discharged.

0330 Crew continues to "baby sit" the trash pump. Controls on the acid pump broke.

910 hrs. Back up acid pump installed. pH remains stable at 11 after reactor, 7 after clarifier, and 7.0 at discharge. —

0530 Air monitor and trash pump is working better - throttle is turned up more. —

0630 Discharge rate for last 3 hours was 3268. Crew continues to monitor system. Everything stable - pump and pH. —

BWB —

0700 Day crew arrives. Safety meeting held. One tech off site for day. The operator is working as a labourer today as the D-4 is inoperable. —

0800 - Trash pump is back on line. Moisture and length of time of straight use appear to be what caused last night's problems.

- Effluent pH at 7.0 units. —

- Drillers arrive onsite. —

0900 - Drillers complete the decong their two augers and begin drilling hole #3. —

1100 - Air monitoring sound. System running smoothly. pH in clarifier at 12 units, poly sump at 7 units, effluent at 7 units. —

- 1400 - RM departs site for rest of day —
- 1530 - Rain showers start. Lightening & thunder nearby. All crew members are in crew trailer.
- 1630 - Rain has almost stopped. Water treatment being restarted. Drillers are disconnecting one auger waiting for rain to completely stop.
- 1700 Water treatment operational and flow being ~~speeded~~ increased.
- 1730 Drillers work on first hole after rain (eighth hole on lagoon 4).  
- PCS, laborer and OSC depart.
- 1745 - TAT Baker arrives to observe drilling  
NOTE: Oil scum (floating floc) was removed as best possible from the clarifier with a dapham pump.
- 1830 Flow still at 70gpm. There appears to be a carry over suspended solids up the clarifier. This could mean that there ~~is~~ a lot of settled floc (blanket) on the bottom of the clarifier.
- 1845 Night crew arrives. Safety meeting held. Mud on ladder and poly tank are washed down.  
Mud and rain hazards are talked

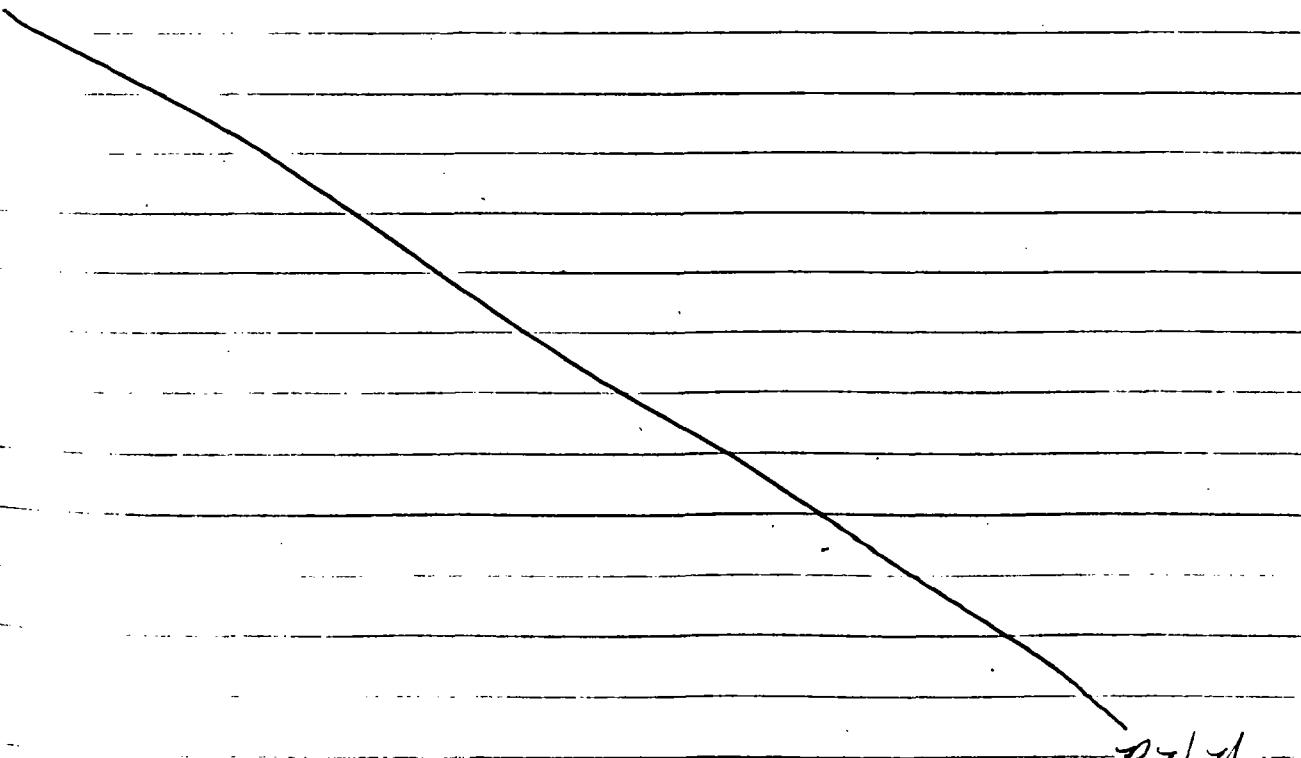
Absent.  
E Allen

1930 Drillers leave site after deconing  
truck.

2200 Everything running smooth. PHAT clarifier  
II, after clarifier 7, after sand filter 7 and  
at discharge 7.0. With third crew member  
starting tonight, crew is switching one member  
out every hour for an hour break.

2315 Air monitoring round. Hous not working correctly  
by end of round due to humidity. Float in  
poly sump got stuck. A minimum amount  
(~15 gal) water overflowed into ditch. float  
was freed. The float switch has acted up before.

BWP



P.Z.L.

Sunday September 13, 1987 weather clear  
0100 Crew taking staggered dinner break. Water treatment system and pH stable.

0345 Having trouble with the float in the poly sump aggr. Discharge flow rate has slowed greatly.

0430 Discharge rate is still slow - 30 gpm. Pump in poly sump is working but not at same rate as before.

0630 The discharge rate for the last 4 hours is 28.7 gpm. pH remains stable throughout the system.

BMB

0700 Day crew arrives. Safety meeting held. Day crew is preparing to backflush sand filter.

- Drillers deconnng augers and both vehicles to prepare to move to lagoon 1+2 area.

0900 Drillers working on first hole in the NE portion of the capped lagoon. There is cement, household garbage and demolition debris in the way that cannot be drilled through. Two aborted attempts made on top this hole before they made it to a depth of approximately 8 feet. The hole on the NW corner did not have debris underneath it.

- HNu readings in the first hole went up to 10 units.

- C6I readings were 0%.

0930 - Backflushing completed. System back online.

1030 Air monitoring round. Flow at approximately 60gpm.

- HNu readings on the NW hole on barge 1+2 were around 2 units. ~~but~~ Black sludge layer was encountered.

1130 Drillers depart hot zone because of heat. MACORP is temporarily out of poly laminated tyvek so all personnel are wearing PVC rainsuits over white tyvek.

NOTE: Copy machine is out of tones. Some will be received tomorrow afternoon from TL Kenning when he comes out for site visit.

1230 Crew lunch.

1300 Drillers back onsite on last poly tyvek onsite  
- Effluent at 7.0 units (pH).

1430 - Drillers out for a break. Hole ~~EP~~ 70, center ~~EP~~ SW hole was ~7 feet of clean material and then the clay layer. No HNu readings were observed.

1515 Drillers back onsite to begin center

hole.

- Water treatment continuing. Discharge rate at approximately 60gpm. Effluent at 7 units.

1730 Rm+OSC depart. PCS departed at 1300. One ~~team~~<sup>set</sup> of laborers is remaining at site to aid drillers.

1900 Night crew arrives

8 Allen

1915 Drillers working on SE corner. Rig had to be pulled into position with the D.Y. Da. crew and 14 laborer depart.

1950 Drillers finish 19st hole. No sample was taken as the material encountered would not stay in the split spoon sampler. The material encountered was high in organics. Drillers deconing their rig and truck.

2100 Tat Giles and drillers depart site

2230 Air monitoring round. PH and Flow remain stable  
BWB

P-ZLZL

large  
ent

P.X.L.

19

Monday September 14, 1987 weather clear

0300 system running smooth. Average flow rate up to 69 gpm.

14 0430 float on poly sump pump is acting up, crew had to cut back flow from clarifier.

0630 Poly sump pump is working ok now. Water treatment system and pH are stable.

0645 Day crew arrives on site

BWB

0700 Safety meeting held. PVC suits are to be worn until the poly laminated tyvek arrives.

- Operator departs D-4 awaiting demob.

0830 - TAT Giles departs for Chicago. He completed paperwork before departing.

1000 OSC + TAT enter hot zone to check site progress, measure sample locations from drill rigs booms and do air monitoring.

- Flow at 65+ gpm. There does not appear to be any floating floc going over the clarifier. The water appears to have changed from a red color to a light

LZL

brown. Effluent pH at 7.0 units.

1200 Crew lunch. D-4 disconnected and out of hot zone. While OSC and TAT were off out on lagoons 1&2, they found the Acetone can loaned by TAT to the drillers for decon. The can had been tipped over and was leaking.

- Their green work gloves were also found.
- TW Allen excavating informs RM that the D-9 is on the way.

1400 - OSC Hollingsworth departs for Krejci Pump near Cleveland to switch with OSC Burk.

1430 - First eleven (11) depth samples sent to Wadsworth/Alert laboratory in Canton, Ohio. They were packed in ziplock baggies and virgin vermiculite inside a sealed paint can.

- D9 rental office informs RM that the trailer (lowboy) bringing the D-9 has a flat, later today it will be delivered.

1600 - Small poly sump at the end of the clarifier has had a hole. It's rubbed into it from the submersible pump. Laborer sent to purchase a new one from a local store. RM informs TAT that the tank will be at no charge to the Government.

1630 - D-9 arrives. Contract drawn up by MCORPS specifies that the billing date does not start until 9/15/87.

1645 - Laborer returns to site. Credit card

~~water~~ could not be used because it was at its limit. Labourer immediately returns to the store.

- Extra time for installation not billable to Government per Rm.

1735 Labourer returns with poly tank. Lid is removed with a circular saw & tank placed in treatment area.

- 1800 System back on line but at a very low flow. Spark plug replaced in hash pump. (Maintenance should have been done <sup>earlier</sup> during downtime).

- There are two hash pumps (3") onsite. They need different sized spark plugs. Spark plugs for the backup pump were available but not the main pump. The backup pump cannot be regulated as well as the main pump. Until the new plug is obtained, water is being heated in batches.

- Rm departs. Labourer and operator have been left onsite to help get system back online. Oscar and Rm will discuss whether their hours should be billable to the site.

1830 Labourer returns with spark plugs.

1835 Flow back on. It had been stopped in the past 1 hour period.

2000 Water treatment system operating smoothly.

Discharge flow is back up and stable. —

2300 Air monitoring round. effluent is back to a reddish color. pH remains the same.

Crew starting split dinner break. —

BwB

P.W.Z.

Tuesday September 15, 1987 weather; clear —

0230 The pH ~~over~~<sup>over</sup> in the reactor jumped up to 13. with an increase in caustics it dropped to 12. Having trouble getting it to drop back to 11. pH out of the clarifiers is 8. Adding more caustic to system. —

0500 Air monitoring round. pH in reactor has been lowered to 11. The color of the effluent appears to be more

brown in color, but still reddish colored.

A lot of green scum in foam coming out of clarifiers

to 0630 pH and flow rate stable. System running  
e. smoothly

BWB

0700 Day crew arrived. Safety meeting held.

Because of lower flows during the night shift, the foreman is to backflush the system. The lower flows may be due to a clogged sandfilter.

0800 PCS arrived.

- Operator has started up the D-9 and has begun to move the material from the far ~~west~~ northwestern area south closer to lagoon 3.

0830 - Mr. Bob Bodden, Mr. Ben Hamm (USEPA), Mr. Steve Liikala, Mr. Henry Mendoza, Mr. Todd Kenning (MAECORP) and Mr. Jim Buelt, Mr. Jim Hanson from Battelle onsite for meeting concerning ISV process.

0900 System back up. pH at 7.0 units

- Operator was moving material on top of lagoons 1 & 2 instead of back in the western area. RM reinforced his task.

NOTE: Weather is overcast and slight drizzle has ~~begun~~ begun.

1100 Site ~~is~~ Site Activities shut down

- Because of thunder and lightening.

- Battelle/MaCorps/EPA visitors have walked the site along the Western and Northern roads.

1130 Thunder + lightning stopped but the rain is continuing.

- VWR arrives to deliver caustic and acid.

- Garbage truck onsite.

1200 - Inlet hose being moved further out onto the lagoon.

- All visitors depart.

1220 - System back up and operational.

NOTE: Still raining

1307 - Bobcat brought onsite to move drums of acid and caustic back into the treatment area. Bobcat is nonhirable due to not being authorized before arriving onsite.

1330 - Crew lunch. In shifts while bobcat used to move drums.

- Treatment continues.

1510 - Rural Serve onsite to deliver diesel

- Rain continues off and on. Average flow from beginning of project has decreased to 51.86 gpm

g. - Sludge judge received this Am. Foreman used it and reported that there was a blanket of 4 feet across the entire clarifier.

- A "diaphragm pump used to pump blanket back into the lagoon.

- Note: just took on the lagoon water had all the floc going to the top.

NOTE: 1447 Robert departs site.

1730 RM, PCS, laborer and operator depart site. Flow still low due to blanket covering.

- Samples (depths from drilling operations) were packed for shipment in AM.

1900 Night Shift arrives. Safety meeting includes hazards when footing is wet. Foreman is showing crew how to backflush sand filter.

E Allen

2030 Flow discharge rate is continuing to rise (53.2) water treatment system and PH remain stable. Tgt Baker trapping out water Treatment area.

NOTE: Rain has stopped.

2145 Crew back flushing sand filter. Flow rate had been slowing.

2230 System backup, flowing at 60 gpm. Stabilizing PH. to 7.0.

A-Z(Z)

Wednesday September 16, 1987 Weather: cloudy.

0100 Crew taking split dinner break. System running smoothly.

0400 Crew continues to monitor treatment system.

0600 NOTE: started raining - rain stopped 0630 —

0645 Day crew arrives on site, TAT Allen and RM Enlund also arrive. Flow through the sand filter is slowing discharge rate. Day crew will back flush. —

BWB —

0700 Safety meeting held. Slip hazards because of wetness were stressed. Day crew is going to backflush the system immediately to improve flow.

0840 RM and OSC enter site to review progress  
and aids operator in soil movement.

- Backflushing is completed. —

0915 - RM + OSC out of hot zone.

- One tech (J. Speed) has had to needs to  
go home this weekend. His replacement  
will arrive Friday at no cost to the  
Government. —

0915 - UPS arrives with large shipment of

protective clothing for MAE corp personnel

- Caustic pump has been down so  
system down. Foreman fixed whatever  
was wrong. Total downtime was approx-  
imately 1/2 hour. —

1000 - Crew (water treatment) is sucking out  
green ooze from bottom of Clarifier. —  
The ooze is forming on a continuous  
continuous basis. The four feet of  
ooze from yesterday was fairly well  
cleared out but has continued to  
form ~~rapidly~~ <sup>quite</sup> at a rapid pace.

1130 D-9 down due to hydraulic oil leaking  
at a high rate of speed. The piece of  
equipment came out of the site with  
a light leak. —

- Owner of D-9 has been called to come  
repair the equipment. —

1300 Holland Trucking onsite to deliver more sand for the sand filter. The filter will have several inches scraped off the top when backflushing no longer increases the flow rate.

1330 Danny Kessling, ABC Security arrived to ask about service received from Guard.

1400 TAT departs site to purchase coolers.

1420 Portajohn cleaners onsite.

NOTE: OSC Hollingsworth arrived 1145.

1445 TAT Allen returns. PCB soil samples packed into coolers.

1515 TAT Allen into treatment area to pull water samples (PCB, O<sub>2</sub>G, Phenols, MBAS + pH). Crew was sucking ooze out of the bottom of the clarifier. The ooze is being pumped back up to the lagoon.

1600 FedEx arrives. 22 PCB Soil samples and above mentioned water analysis shipped to Wadsworth / Alert labs.

- TW Allen excavation personnel onsite for repair of D-9.

1645 - D-9 repaired. There was a valve stuck open. It was manually closed. Equipment was nonbittable from 1130-1630.

- OSG, AM, PCs and TAT discuss 55s. Reconciliations are to be done as soon as an error is realized not saved up for a reconciliation 55. All receipts are to be billed on the date of purchase. All these items will aid site cost tracking and work estimates as well as invoices approval.

1700 - System down as intake needs to be moved personnel are having a hard time finding a spot where there is not sludge.

1730 - Night shift cancelled because the hose cannot be moved out far enough to not suck sludge. The site will ~~be~~ have maintenance performed tomorrow

1815 - All personnel, except TAT Allen depart,

~~1820~~

1850 - Night shift personnel arrive. MAECOR people call RHM and depart site. TAT Baker collects paperwork to be checked at hotel. He is also to calculate estimated volumes of contaminated sludge in lagoons 1, 2 & 4.

1900 TATs depart site. Security on duty E Allen

S.Z.J.

Thursday September 17, 1987 Weather: 60s,  
Cloudy, chance of rain

0700 Day crew arrives. One deck from  
night shift added today to aid in  
system cleanup.

- Crew pumping water out of the  
sand filter before scrapping the barge  
of contaminated sand.
- D-9 being used to push in the  
western edge of lagoon 3.

0800 - D-9 back down. The blade can  
not be lifted when the equipment  
is in reverse. The Government is only  
billable for 4 hours of use  
yesterday. The piece of equipment  
is being returned to owner.

0900 - Suggestion made for schedule  
and plans. Spend today cleaning  
up the system components and  
mob in another D-9 and a A35.

Dig drainage trenches and a sump in the treatment lagoon. Let the water settle over the weekend to reduce the oil/water/solids mixture that would have to be treated.

- Night shift has been cancelled and the two night techs moved to day demobilized.

NOTE: Sand filter was backflushed before being dumped out this AM.

- Sand has been added ~~for~~ to the sand filter several inches of sand was removed.

1200 - RM making arrangements for a 235 by late tonight or first thing tomorrow moving and a D-9 as soon as possible.

- Crew is cleaning all pumps and treatment equipment.

1230 Lunch break for crew.

- Crew spends afternoon cleaning all components of water treatment system, providing ~~the~~ maintenance on all pumps.

1600 Crew departs.

1715 TATs depart.

1730 Guard arrives. OSC departs.

E Allen

A/z/z.

Friday September 18, 1987: Weather: overcast,  
blustery, good chance of rain

0820 OSC arrives site.

0845 MACORP crew arrives. Guard departs

0850 TAT arrives. Safety meeting held.

- TW Allen Excavating onsite for repair

D-9.

0915 Ron Schack, EPM-Midwest, onsite. He  
is a ~~XEP~~ consultant with PRP Lubrizol.  
He used a video camera from the roadway  
and field.

0920 Bob Manson, DEPA, arrives. He informs  
OSC Hollingsworth that the aquatic life  
in Indian Creek looks alive and well.

The State would like to take samples  
in Indian Creek while we are ~~still~~  
heating water. OSC told him that  
once we start up we will inform  
them.

- 0940 Richard Geyer, Sandusky Health Department, onsite to take pictures. He takes pictures from field.
- 0950 Bob Manson departs site.
- 1010 Ron Schrack departs site.
- 1020 Richard Geyer departs site.  
- RM looking for a D-9, but all rental places to date want to send the equipment out in pieces and have it assembled onsite. The RM asks OSC Burk for permission to rent a D-7 or D-8 if that is all he can find.
- 1215 Lunch for crew. PCS takes Tech J. Speed to Toledo for demob. Demob time (6 hours) is billable to the government but the bus ticket isn't because the rest of the crew is demobbing tomorrow.  
- Laborer sent up to the intersection of highways 12 + 53 to meet trackhoe and bring him in.
- 1300 Laborer returns to site. Track hoe still not arrived. RM calls rental company. Unit at Indiana border at 0900.
- 1320 RM departs to meet truck.
- 1345 RM + trucker return. Truck was delayed until ~1100 at Indiana border for waiting for permit.
- 1400 Trucker departs. Two men from EPC

- a local cleanup contractor arrives to see if we need any equipment.
- 1422 EMC personnel depart.  
- Crew has started dredging the lagoon.
- 1425 - Tom Allen of TW Excavation returns to site to continue working on D-9. He said the hydraulic cylinders were shot and needed to be replaced. He will continue working on them.
- 1530 Crew comes out for a break.  
- H Nu readings during dredging were only 2.2 units at the highest. Readings were consistently below 1 unit.
- 1545 Crew back in hot zone continuing to dredge.
- 1700 Crew begins coming in. 235 (P200xK Kamatsu) staged near gate trailer for security.
- 1730 Security onsite. Crew, OSC + TAT depart site. MAECORP personnel to stay in Fremont overnight. There was a full day worked. There have been several accidents occur from personnel driving home after a full day of work.  
Allen

Saturday September 19 through Monday Sept 21, 1987  
- Security onsite 24 hours per day -  
E Allen →

Tuesday September 22, 1987 weather: 60°,  
overcast, threat of rain.

1000 Porta john cleaners onsite.

NOTE: T Allen excavation onsite to repair  
his dozer over weekend.

1100 PM arrives site.

1120 first MAECORP employees <sup>arrive</sup> depart site.

1200 OSC Arrives.

1210 TAT Arrives. Safety meeting held.

New personnel onsite read and sign  
Safety plan.

- Crew begins setting up treatment  
system for discharge. <sup>ED</sup> Influent  
hose placed in lagoon. When system  
started, backflush tank filled  
first.

1338 O-63E arrives onsite (equivalent  
to O-6 1/2). Moved from Indianapolis

- 1400 Trucker departs.
- 1500 Effluent to ditch. OSC & RM take site tour to view progress.  
- Operators moving contaminated material from the western over-flow area into lagoon 3 to displace water.
- 1730 PCS and laborer depart site.
- 1845 RM and operators depart.  
- Night Shift arrives. They are orientated to site conditions.
- 1900 Foreman and final clean tech depart site. OSC departs.
- 1920 TAT Allen departs.  
E Allen
- 1945 T.W. Allen personal on site to work on D-9 Water treatment system running smoothly.
- 2035 T.W. Allen personal finish replacing seals on the blade cylinders. MAECORP tech offsite to get dinner for crew.
- 2300 Air monitoring round. Discharge flow rate for last 3 hours is 63.94 gpm. Effluent is more of a brownish color than it has been in the past.
- 2400 Crew taking split dinner break <sup>out</sup>.
- BWB

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wednesday September 23, 1987 weather: <sup>bys</sup> cloudy clear

0230 PH and water treatment system stable.

0500 Air monitoring Rand. water Treatment system — running smoothly.

0640 047 crew arrives on site along with TST Allen and RM.

BWB

0700 Safety meeting stressed caution when around the lagoon and around heavy equipment.

- Night crew departs.

0730 - OSC arrives. RM brings up moving a local rental of a D-8 and operator. This would be used to facilitate the displacement water in the lagoon.

- Water treatment continues. Operators are moving the last overflow area

material into the lagoon. There were several tanks from the overflow area that had been placed into the western area of the lagoon, yesterday. This morning they were still moved to the SE corner of the lagoon.

0915 RM and OSC enter hot zone for site tour.

1006 ERM personnel, Ron Schrack, arrives onsite. He had a phone message to call Dave Cowan, L&L Lubrizol. He called using a credit card.

- He sets up ladder on top of a board in the field to video tape site activities from offsite location.

1115 - OSC and ERM Ron Schrack discuss site and walk northern and eastern perimeters.

1130 Air monitoring round by TAT. - Ambient readings onsite and offsite all at approximately 0.2 units on the HNU.

- Slight sulfur smell noticed downwind and in the treatment area.

1230 - Crew lunch.

Mr Schrack departs for lunch

1300 Mr Schrack arrives.

- DEPA personnel down at outfall taking samples.

- Mark Vendl and Bob ~~Jones~~ Jones, USEPA, arrive for site safety audit.

1330 Vendl and Jones depart for lunch. —

1440 Vendl and Jones ~~return~~ return to site. —

- Water treatment continues. Soil movement eastward along the western edge of the lagoon continues. The water and oil are moving eastward towards the dump.

· - A35 used to trench along the eastern edge towards the dump to facilitate water movement. —

- Analytical bids for A/B/N and HSC metals for core samples ~~do~~ will not allow for a 4-72 hour turn. —

The best turnaround time will be approximately 1 week. —

- ABNs were selected over PAHs because ABNs include PAHs and many other compounds that are potentially onsite.

1530 - TAT pulls water samples from system and observes soil movement. D63~~E~~ is hitting a layer of black soil that is approximately 5+ feet below the lagoon berm.

1630 OSC entered site with ERM contractor. D63~~E~~ gets stuck in lagoon

burn and is pulled out by the  
235.

- During work order meeting, OSC discussed results of safety audit with TAT and RM. All electrical outlets for the treatment area are "GFCI" (ground fault.) This was confirmed by RM Carl Emlund calling MAECRP personnel Dave Estep. The other area needing attention was the safety plan and "contingency plans for possible onsite problems ie what to do when a line under pressure blows.

- RM to list potential problems for OSC.  
- Flow on system ~~is slow~~ shut down so that there is ~~not~~ enough contact time for the contaminants in the system during the final phase of ~~the~~ the lagoon.

- Effluent looks tan and is very cloudy. A sample of the effluent is filtered through a coffee filter but the fines are so small that they appear to ~~not~~ not have any filtering potential.

1730 Labov and PCS depart site  
1800 PM departs.

NOTE: 1645 D-8 mobilized from local contactor. The company will provide a Level C operator in the morning.

1830 Night shift arrives. Day shift has shut down water treatment system until the morning. The nightshift is to perform nonbillable preventative maintenance on the heat-mix system.

-OSC departs.

E Aller -

1900 Night crew begins maintenance on equipment and pumping sludge. There is approximately 2 feet of sludge on the bottom of the clarifier.

2030 Discharge hose for pumping sludge has a hole in it, crew quit pumping sludge. The water level in the clarifier has dropped 3.5 <sup>bags</sup> feet. Approximately 8 inches of sludge remains. Crew cleaning site and decom line.

2300 TAT Baker and night crew depart site

B. & B

0645 MAECORP employees arrive. Security departs. Subcontracted operator is onsite. 0700 TATs, OSC onsite. Safety meeting held. Operator reads and signs off on safety plan. He produces his documentation of certification for level C work.

- P.M. Correll (Subcontracted operator)

did not bring his own respirator but he had been fit tested on the same North respirator used by MAECORP. A spare mask was provided for him. His last fit test was in September 1985. A makeshift fit test was completed to ensure fit. Two cigarette smoke was blown into a plastic bag. The man placed head and shoulders in the bag and moved his head and spoke. He reported no breakthrough.

- RM, new operator, OSC and TAT Baker entered site to review earth moving.

0800 - R+R water arrives onsite for ~2000 gallon delivery.

0840 R+R water departs.

- D8 cannot be started due to a dead battery. Trying to jump start the machine with the D63E.

0845 TATs depart to pick up transit and return rental car.

- ~~D8~~ D-8 started and put to work moving soil on the western side of lagoon 3.

- Water treatment started during this time period.

- Sand filter was backflushed this AM.
- Once water was begun being pumped from the lagoon, there was a lag time before discharge began because the clarifier had been lowered during ooze removal the night before.

0900 - Effluent started.

1030 - Flocculation and treatment stopped because influent water is black and full of TSS & TDS. The soil movement from the western area of the lagoon has filled the sump with sludge.

- D35 used to redig the sump.
- D-8 and D-63E moving soil into the lagoon. Material being moved was black and looked solid, not like a sludge.

- Material was obviously contaminated.

1100 - Sludge samples pulled from lagoon 3. D35 bucket dug material out of lagoon bottom and samples pulled from there. Samples were black and viscous, but not pure liquid.

1145 - D8 and D63E hit water while moving dirt.  
- unknown origin of water.

1300 - OSC, RM, + TAT Baker enters site to review progress and check water level.

- two truck loads of stone received and placed near treatment area.
- TAT Bechtel (Cleveland Office) sent to Wadsworth about Canton Ohio to pick up several samples composite and ship to ERG in Ann Arbor.

### E Allen

1315 The dozers as they built the ramp and pushed the dirt into the lagoon went below a ~2' yellow sandy clay layer into a black silty clay with a black sandy layer ~6" that contained water that would flow. The black silty clay is hard to distinguish from the contaminated soil. A trench was dug perpendicular to the lagoon to get a cross-sectional view of the soil layers. The trench revealed the yellow clay layer and the black silty clay with the water layer. Below the sandy water layer was black silty clay. The trench was dug only 6" below the sandy water layer. To verify "clean dirt" from "contaminated dirt" since both are black colored and there was water present, a second trench

was dug back by the tree line along the western border of the site. This trench revealed the same yellow clay layer with the black silty clay layer below. The same water layer was present. It was determined that the contaminated soil stopped at the top of the <sup>sub</sup> yellow clay layer. The black clay layer appears to be clean and can be distinguished from the black sludge by its duller color as the black sludge <sup>sub</sup> has more of a oily shiny texture.

1430 The areas where the yellow clay layer was removed were filled in with clean dirt, and the dozers continued to build ramps out into the lagoon and push dirt into the lagoon closing it off. As the dozers scrapped down to the clean yellow clay layer moving east the yellow clay turned to <sup>sub</sup> a dirty gray-green color. Further into lagoon the clay layer is gone. It can not be determined if the clay layer is absent or if it was removed in building the lagoon. The "dirty" sludge layer is now resting on the black clay layer.

1700 The dozers continued to push dirt into the lagoon. The ramp is being built and moved in such a way to keep from digging a trench at the base of the ramp and over steeping the ramp.

1630 PCS, labourer, foreman and one tech  
depart site.

- ~~Kiln dust~~ Kiln dust being discussed to possibly use to solidify the lagoon as we are running out of water. There are pockets of water that will be pumped out batch fashion in the morning.

- Solidification lagoon is still up for discussion. The hazards are a problem because of the exothermic reactions that occur. Kiln dust still up for discussion.

- In the AM. The water available will be pumped out of the lagoon. Then when that has been completed, the dozers will continue to push dirt into the lagoon. Until then, the heavy equipment will be moving the dirt dirt onto top of lagoon 1+2.

1800 D-8 gets stuck in ~~the~~ NW corner of lagoon in an area that is very soft. This area was "swampy" earlier in the day and had been dirt placed into the area.

- D-63E used to pull/push the bigger unit out.

1815 Equipment out of swampy area.

All equipment being gassed and lubed.  
1830 All personnel depart site. Guards  
onsite.

E Allen

Friday September 25, 1987: Weather: cool,  
breezy, sunny. Wind from N.

0700 All personnel arrive. Guard departs.  
Safety meeting held. Personnel warned of  
weak lagoon banks.

- Water treatment crew and 235 trying  
to pump water from select areas of the  
lagoon to the system.

- 2 dozers first build a ramp from the  
western overflow area up onto lagoon 1+2.  
They then begin moving material piled up  
on the NE corner of lagoons 1+2 to the SE  
corner. JATs are surveying for elevation  
the ~~out~~ lagoon 1+2 area. Operators

work around surveying stakes as needed.

1000 - Approximately 3000 gallons of water was pumped into the first poly tank in the treatment system. The water is not easy to find in the lagoon.

- After material moved from the NE to the SE corner of lagoon 1+2, the dozers worked on building up the berm on the western edge. There was only several inches of fill board and more would be needed as the lagoon was consolidated more.

1230 Crew lunch.

- Water collected so far today may not be heatable. Treatment personnel are adjusting the pH to discover heatability.

- After experiments, the water will either be heated or pumped back into the lagoon. Seeding losses no longer needed will be started today.

- At least four attempts were made to find dump sites in the lagoon.

- Clean material on top of lagoons 1+2 ~~will~~ being moved from the east to the west for staging. The soil is being scraped off several inches at a time. When the clean material is removed, lagoon 3 will be moved

(after solidification) to on top of 1+2.

Thus, the surface area requiring ISU is minimized.

- TATs surveyed the ~~plus~~ elevations of lagoons 1+2. Operators are to avoid stakes while moving soil.

1430 - DSC departs for Grand Lk Michigan office.

Elliott

1500 Dozers continuing to remove clean beet dirt to western edge of site. The soil will be staged there to keep it clean. The beet dirt is removed down to the top of the clay layer. The resulting surface is irregular with the center of Lagoon 1+2 being higher. The clean dirt is being staged far enough from the lagoon to allow a roadway for the equipment to get around the site. In the north west corner of this roadway the dozers tracked into some sludge. The sludge was covered with beet dirt so not to track any of the sludge into the clean area.

1700 Equipment being gased and lubed

1730 All personal depart site, Guard on site.

B. Baker

Note: EMC mechanic onsite this evening  
to replace one 12V battery and  
replace two fuel filters.  
Person signed in at 1615 but believed  
to have been 1815.

E Allen

Saturday September 26, 1987: Weather: Cool  
(40°), sunny.

0700 Crew + TATs arrive. Guard departs.  
Safety meeting held.

- Operators warm up machines and  
then continue to ~~solidify~~ scrap the  
beetdirt (clean fill) from the topsoy  
lagoons 1 & 2.

- Treatment personnel continue  
cleaning system. Laborer Gilmarin  
did not arrive this morning.

Operator Carpenter not to be killed  
as an operator this AM because  
he is needed as a clean tech.

0840 - OSC arrives.

1030 Crew break. OSC and RM hold a meeting with the operators and TATs to discuss site schedule and plans. Schedule is being determined by training session scheduled 10/13 - 10/15/87 for OSCs and TATs.

- Trackhoe will be excavate ditches on north and east sides of lagoon 1+2. Soil will continue to be staged on the southern and western edges of lagoon 1+2.

1035 PCS departs site to drive departing personnel to ~~to~~ Greyhound bus station. Dertime is nonbillable.

- Operators continue moving material to the southern edge of lagoon 1+2.

1315 Tank found during soil scraping. RM will look at it after lunch.

1345 ~~to~~ Crew lunch.

1415 Crew continues on assigned tasks. Operators work on locating lagoon 1+2 by excavating inward on the north and east sides. Approximately ten to fifteen feet are taken off the last side before the edge is found.

- Tank is excavated around. Found

to contain mud and water + some odors. It will be dealt with in the near future.

- Operators kept moving soil all afternoon. The 235 began excavating the northern ditch.

1730 MAECORP personnel depart.

NOTE: Extension for the exhaust on the D-8 broke off. It will not interfere with the use of and operation of the D-8. EMC was informed and is to repair sometime tomorrow.

E Allen

NOTE: Carpenter is an operator from 1315 - 1730.

E Allen

Sunday September 27, 1987 Weather:

Sunny, warm.

- 0700 All personnel arrive. Security departs. Safety meeting held. Because of dust problem slowly developing, personnel are asked by OSC to change dust filters at lunch break. Hoods should be worn by operators to decrease contact hazards.
- Three water treatment personnel continue to decon equipment.
  - Two MACORP operators onsite. EMC operator has day off and has returned to his home.
  - The northern edge of lagoon 1+2 is being searched for as the soil is scraped to the south.
  - RM enters site to inspect tank. It appears to be full of soil.
- 1230 Crew lunch break.
- 1300 Crew returns to site. Tasks continue as before.
- 1400 Small diked area constructed on the SW corner of lagoon 1+2 to contain some sludge pumped and solidified in lagoon 3. Trash pump cannot pump sludges but soils are solidifying the lagoon very well.
- A35 continues to work on solid-

ify lagoon 3. D-63E is cutting the western lagoon edge sharply as the northern and eastern edges are.

1700 Heavy equipment comes in for fueling and daily service.

1730 All personnel depart site.

PCSN/B all day + sedan (Calais) van.

E Allen

Monday September 28, 1987: Weather: warm, sunny.

0700 All personnel arrive. Guard departs. Safety meeting held. Dust filters, and safety around the vac truck are stressed.

0815 Vac truck arrives. Driver reviews the safety plan.

- Treatment personnel begin vacing out the carbon cell and continue to decon equipment. The rental equipment from OK rental, is all returned.

Equipment was ready to be returned on Saturday but the local office was closed so most equipment listed as being returned on Friday.

- A 35 is mixing soil and sludges in lagoon 3. Two dozers are moving material on lagoon 1+2 towards 3.

0900 TATs ~~are~~ in hot zone surveying elevations

1000 Ron Schack with ERM Midwest on-site to monitor cleanup for PRP Lubrizol.

- He is setting up two scaffoldings. One along the northern perimeter near the cornfield and one along the ~~southern~~ eastern edge (perimeter) just south of the lagoon 3 in the field.

0945 Western edge of lagoon 3 is breached as soil is added. Both dozers work on moving soil to stop migration.

1000 Crew break.

- After break, work continues as before.

1215 - Crew lunch. Doug Spencer, EME, onsite to meet with KIC personnel and

The RM.

1200 Ron Shrack, ERM, departs site for lunch.

1303 Ron Shrack, ERM, returns. He is observing from his two platforms and by taking a walk into the woods on the west side of the site.

1345 TW Allen excavation personnel onsite to pickup the first D-9 rental.

1355 TW Allen excavation personnel depart with D-9.

1415 23S begins excavating solidified material out of lagoon 3 onto lagoon 1+2. The dozers are spreading out the material.

- When the vac truck has been filled, it unloads into a small depression made on lagoon 1+2.

The vac truck tires are washed before being sent back to the cells.

- About 1/4 yard of carbon was spilled from the carbon cell onto the ground when the side manway was opened.

The material will need to be cleaned up before leaving the site.

- The vac truck back door was

found to be leaking during the lunch break. The areas of spillage will need to be cleaned up.

1435 Ron Dechack, ERM, departs site.

~~1530~~ 1530 ERM personnel arrive with second rental 235 backhoe. Personnel attach counterweights.

<sup>0430</sup>  
1630 Allen

1630 235 and dozers continue to mix dirt into the lagoon and spread out solidified material. Cleaning of the carbon cell also continues. The Vac Truck will be kept an extra day to finish cleaning out the sand filter tank.

1715 Vac truck dumps load on top lagoon 1 & 2. Heavy equipment comes in for fueling and daily service.

1730 Security guard arrives. All personal depart site. Passenger van turned in.

Bruce Oden

Tuesday September 29, 1987 weather: cloudy, rained off and on around 8:00.

0700 Guard depart site as all personal arrive on site. Safety meeting held. New operator from EMC reads and signs safety plan.

- water treatment crew continue to clean carbon cell after decompressing vac truck tires.

- The two 235's and two dozers continue mixing dirt into the lagoon and removing solidified sludge material.

Bruce Baker

0845 TAT Allen enters hot zone for air monitoring. Techs are vacing out the carbon and sand from the filters.

HNU readings inside each vessel were 1 unit, which was also background.

- Tech ~~Glinski~~ Glinski entered carbon cell to vac the last couple inches of carbon out. HNU readings stayed consistently at 1 unit. Carbon cell has been completely vaced out. Only needs to be washed out.

- hoses from the vac truck keep clogging. Personnel have to pound on the hoses to break the clogs.

Two hoses are used on the sand filter but the material is being slowly removed.

1015 Crew break.

E Allen

1115 TAT Baker enters hot zone for air monitoring. Techs cleaning out sand filter tank.

HNU readings inside tank at  $\frac{363}{3.0}$  units. Raining causing HNU to read high. The VAC truck is being decon for leaving the site. Inside

The VAC truck tank was cleaned with Quissel and rinsed <sup>3rd</sup> three times.

1230 Crew taking lunch break.

1300 Heavy Equipment operators return to mixing dirt in Lagoon and spreading out solidified material. Small Dozer staging dirt from top and side of lagoon 1 + 2 to use in solidifying lagoon.

- TAT Baker enters Hot zone for air monitoring of Sand tank Filter. One tech shoveling out sand filter tank and one tech washing down inside of carbon tank. HNU reading are 1.2 units.

1400 EMC VAC TRUCK Finished deconing and leaves site.

1450 Crew takes Afternoon break.

1530 TAT Allen enters Hot zone to continue monitoring of Sand Filter Tank clean out. HNU reading are 1.0 units. Deconing of water treatment equipment continues.

1710 Heavy equipment comes in for fueling and daily service.

1730 Guard arrives on site. All personnel depart site.

Bonus w Baker

Wednesday September 30, 1987 weather; sunny

0640 All personnel on site. Guard departs site.

Safety meeting held. Safety practices around crane was discussed.

0715 Heavy equipment continuing to mix in dirt to solidify lagoon and dozers are piling it up. One dozer and 735 are working on refining sides of Lagoon 1 and 2.

0740 Crane arrives on site for demob of water treatment. Crew continues to decon equipment.

0915 RM called press Express to check on Low-boy for demob of water treatment system and was informed they forgot to send the ~~the~~<sup>3rd</sup> truck. Arrangements were made to get the Low-boy for 0800 tomorrow.

The crane was demob till tomorrow. The foremen and clean tech with the water treatment system will be demobbed today.

1010 Roy Schrank with ERN - midwest on site to monitor cleanup for PRP Lubrizel. He is taking video of site from scaffolding off site.

- OSC ~~Office of Decontamination~~ arrives on site. OSC Burk left at 0815 to travel to another site.

- Crew taking break.

1100 TAT Allen enters Hot zone to air monitor cleanout and rinse at poly tank used as reactor for water Treatment system.

1130 OSC and ERM personnel enter Hot zone to survey site.

### Bruce Baker

- HNu readings in the 4000 gallon poly tank were 10 units on first survey. After rinsing the tank out with water (person on the outside), the HNu readings increased to 15 units.

Tank is to be left onsite.

NOTE: Foreman & Clean tech for water treatment sent to hotel on standby for the rest of the day. They will return to the site tomorrow AM to load the equipment and then demob to Chicago.

- HNu ambient air readings range from background 1.0 to 2.8 units around the lagoon.

1215 Crew lunch.

1340 Ron Schratk with ERM returns after lunch break.

1400 Rural Service onsite delivering diesel.

1430 OSC O'Neill and Ron Schratk with ERM depart site. STAKES are being set up along Eastern edge of Hot zone. Decon Tank being setup on north eastern edge of site to decon equipment.

- 1445 Crew Taking break. very windy. beginning to rain.
- 1515 Crew not working to do high winds and rain. —
- 1530 Crew returns to work. —
- 1600 skies clearing becoming sunny. Heavy equipment taking turn fueling up. Work continues on mixing and staging sludge dirt. —
- 1715 Heavy equipment comes in for fueling and service. —
- 1730 Guard Arrives on site. All personnel departs site.

Bruce W Baker

Thursday October 1, 1987: weather: cold (40s),  
windy —

- 0700 All personnel arrive. Security departs
- 0715 Crew enters hot zone to warm up equipment. All treatment area equipment is staged ready for demob. —
- 0730 Press Express ~~express~~ truck arrives.  
TAT Allen into the hot zone to monitor poly tank for cleaning.

Today readings in the 4000 gallon poly tank were at background 0.8 units.

0753 Crane arrives. Loading of equipment begins. The sand filter is sprayed off as it is lifted onto the truck.

0810 R+R water hauling arrives to fill up the poly tank next to the decon trailer and the one placed on the NE corner of the hot zone for equipment decon.

0840 R+R water hauling departs.

- D-8 ~~operator~~ operator is leveling and cutting into the bank at the NE corner. A pocket of water is hit. The D-8 continues to dig into the bank approximately 40 feet south of the NE corner. The bank is excavated approximately 5-6 feet inwards without ~~any~~ any liquids or sludge being hit.

- D-63E gets stuck on the lagoon edge (NW corner lagoon 3)

Allen

0850 TAT Baker enters hot zone to air monitor clean out of 4000 gallon poly tank. Readings at 1.2 units, background at 1.0 units.

1000 Roll off box load by crane onto low-boy.

B. Baker

1000 - One loading time dust received. Truck contacted from EMC.

- 1137 Able Rental crane departs.
- 1145 Press express departs with water treatment equipment.  
- drain backhoe using lime to consolidate and solidify the lagoon material. The lime is making the oil and lagoon sludge more rigid and drier when it comes out of the solidification pit.
- 1210 Crew lunch.
- 1240 Lime truck arrives. Lime dust is supposed to be 2-10% moist.
- 1305 Lime truck departs.
- 1200 Two water treatment personnel depart the site for the hotel. They are demobbed.
- 1315 D-4 (onsite awaiting demob) sent down access road to level and straighten.
- 1320 Bobcat arrives. It is to be used to move acid + caustic drums from inside the treatment area to pallets on the driveway. NW&R will pick up the drums at a later time.
- 1435 Third lime truck arrives.  
Solidification continues.
- 1605 Fourth lime truck arrives. Eight trucks due tomorrow.
- 1700 First piece of equipment come in for gasoline and fuel and lube.  
Tracks will also be picked.

1730 Security dep arrives, all personnel arrive.

E Aller

Workers demobbed from site (water treatment people) are to be picked up by MAECORP employees demobbing from another site (Krejci). These travel back is on the way to pick up Greiners people - Will save cost of trans.

Friday October 2, 1987 : weather: cloudy, windy  
chance of rain.

0700 Security departs. All personnel onsite.

Safety meeting held. Dust filters, proper decon and be observant of heavy equipment and lime truck, decon of lime trucks all discussed.

0715 First two lime trucks arrive. They are dumped and have tires cleaned.

0745 Lime trucks depart.

- Solidification continues with both truckloads.

- Hole dug for oil from tanks to be pumped into and then solidified.

0900 Crew break.

0915 Third and fourth lime trucks arrive.

- Solidification continues.

0945 lime trucks depart.

- RM reports to OSC on generator costs. Because the water treatment system is no longer there, a cost evaluation was done to find out if a ~~the~~ smaller watt generator would be cheaper even after electrical switchout.

- Costs show that keeping the large generator would be approximately the same price as the smaller unit.

1115 fifth + sixth loading lime arrive.  
solidification continues.

- Signs warning of chemical hazards are repositioned closer to the support zone. The electrical wire from the generator to the trailer was marked with the warning signs.

1215 New lunch

1300 Seventh and eighth lime trucks arrive.

- OSC, RM and TAT Baker move fencing from former treatment area to

The sand can be dozed into the lagoon.  
E Allen

1345 TAT Barker enters hot zone to photo document holding pond for oil pumped from tanks left on site. The oil will be mixed with lime and dirt to solidify. The oil had previously been removed from Lagoon #3. The holding pond will keep the oil from mixing with the material in Lagoon #3.

1530 All MAECORP personnel depart site. Security arrived. TATS + DSC awaiting verbal PCB results from ERG lab.

1545 ERG calls back. S-88 PCB sample had 23 ppm 1254 while Wadsworth lab had N.D. -  
 -All personnel <sup>departed</sup> ~~arrive~~.

E Allen

Saturday and Sunday October 3, 4, 1987

Security onsite.

E Allen

Monday October 5, 1987: Weather: sunny, 60s and breezy.

0830 MAECORP personnel arrive onsite  
 Security departs.

0840 EMC operators and two lime trucks arrive.

- 0845 TATAllen arrives.
- 0850 OSC Bunk arrives.
- 0900 Safety meeting ~~arrived~~ held.  
New EMC operator reads safety plan. Safety hazards discussed were. watch lagoon banks, Change dust cartridges with large volumes of blowing lime and general safety.
- 0915 All personnel (workers) are entering hot zone. One operator drives truck back into site for dumping.
- 0945 Trucks depart. -  
Solidification continues. Blowing winds are causing white clouds of lime to blow away. A slightly better version of the lime, ~~is~~ is being looked into.
- 1130 ~~forty~~ Second and third lime truck arrive. -
- 1210 lunch break for crew.
- 1300 Rural serve arrives to deliver diesel fuel.
- 1415 fifth and sixth loading lime arrive. One Clean Tech still pumping oil out of tanks and into a pit dug onsite for solidification
- 1500 Crew break.
- After break, activities continue as

before. Two backhoes are using lime to solidify lagoon 3 material. After solidification, material is spread across lagoons 1+2 by the dozers. The strong winds are causing blowing hazards / sight hazards onsite.

- Clean Tech is pumping the last of the oil out of the two tanks onsite ~~out~~<sup>into</sup> into a pit dug on lagoon 1,2 for solidification.
- There is some sludge left in the bottom of the tanks.

1630 Last two lime trucks arrive. A total of eight trucks were brought onsite today.

1645 First piece of heavy equipment comes in for fueling. After fueling, tanks are picked and machines are oiled, lubed and greased.

1715 All equipment in for fueling and daily maintenance.

1730 All personnel depart site for day. —  
Security onsite.

E Allen

Tuesday October 6, 1987: Weather: overcast, drizzle periodically, and temp in 60s.

0700 All personnel arrive. Security departs. Safety meeting held.  
Hood and mask should be worn even though the wind is not blowing today. Dust filters changed as needed. Operators need to watch cutting off access to stable areas when solidifying material.

0730 First two loads of lime arrive. — Only one driver is Level C today. He will need to drive both of trucks in to the hot zone. —

- Solidification continues. Clean Tech sets up decon line, does daily maintenance on generators and decons 3" hash pump and hoses. —

1000 Second group of truck arrive (loads three and four). —

- Crew break after trucks unloaded

1100 Komatsu trackhoe used to dig two trenches on lagoon 4 for sampling. One hole dug near drill hole 8 and the second near soil sample 10.

- Sample material composited and split into two sample jars.
- Solidification continuing. 0-63E dozer moving soil into lagoon from edges to continue consolidation of lagoon
- 3. The area of 3 has been decreased.

1215 Crew ~~broke~~ lunch.

1230 Third set of trucks arrive (fifth & sixth). Trucks wait for crew lunch to be over.

1245 lunch over.

- Activities continue as before.

1430 Activities continue as before.

- Advance trucking onsite to deliver 1-55 gallon drumming decon / degreasers solution.

- Analytical bids received for PCB samples. These samples are a check on Wadsworth Alert lab.

- ERG in Ann Arbor could not meet the turn around, Canton labs in Michigan was second bid while Gulf Coast was low bid.

1545 Fed Ex arrives for samples.

- Final two loads of lime received.

A total of eight loads received today

- Tech places tire between stakes along north and west borders where

there is a several inch drop off into  
the hot zone. Barrier tape placed in  
places along the tarpine.

1700 Heavy equipment begins coming in  
for fuel and greasing.

1730 Security arrives. All personnel  
depart site.

E Allen

Wednesday October 7, 1987: Weather: Overcast,  
mild wind from SW, 46°

0700 Crew, OSC and TAT arrive. Security  
departs. Safety meeting held. Hard  
hats are to be worn around the hot  
zone, watch for hucks and possible  
weak spots along the bagoon banks. —

0745 Trucks unload and return to supply  
yard for next loads.

- Observations made onsite yesterday by  
OSC, RM + TAT are that there is no longer  
any free standing liquids in the  
bagoon like water. There is still a

large quantity of oil being solidified. The liquids from the two tanks onsite have been ~~solidified~~<sup>solid</sup> solidified. Approximately eight thousand gallons have been ~~pumped~~<sup>solid</sup> pumped & solidified from the tanks.

- Because the volume of oil still being solidified appears to be greater than the estimated volume of oil from the lagoon it has been suggested that there was a layer of oil underneath the water (heating that water), that is now being

1000 Second round of trucks arrive (loads three and four).

0948 - ERM Midwest arrives (Ron Schrack). - He views site and site progress from scaffolding along east and north sides. -

1125 - Ron Schrack departs for day. He will be back on ~~Monday~~<sup>Friday</sup>.

- ERG called this morning, they have approximately one jar left of samples 86 and 87. They will forward them, with proper chain of custody sheets to the Broadview Heights TPT office.

1145 ~~FOUR~~<sup>THREE</sup> Third round of lime trucks arrive.

1210 Lime trucks depart.

1215 Crew lunch

1245 lunch over.

1405 Last two hucks arrive. Eight total received.

1500 Crew complaining of bad smell while working with the lime and sludge. Crew break taken.

1515 Crew break over. Lime may be reacting with possible acids used in heating the oils many years ago to form low level H<sub>2</sub>S compounds.

FOSC, RM and TAT enter site with draeger tubes for hydrocarbons and H<sub>2</sub>S, monitor for H<sub>2</sub>S and an HNU.

- Hydrocarbon draeger tubes show some response but too low for quantitation. This was over one of the pits at the NW corner, lagoon 3. H<sub>2</sub>S draeger did not react. The HNU reacted up to 200 units over this one pit. The lime pile was also tested. The HNU went up to 20 parts on the HNU and reacted with the hydrocarbon draeger but not to the same extent as the sludge.

- It was also noted that the lime received today was not the pure white as before on previous days but is of colored.

1545 - VW+R truck onsite to pickup full and empty drums of caustic and acids. There is one partial

drum of both caustic and acid. ~~bill~~  
 These drums are going to be neutralized by VWR for a fee of \$100. 12 full caustic drums, 5 full sulfuric drums, 7 empty caustic and 4 empty sulfuric drums are returned.

1700 VWR leaves.

- Reaction on hydrocarbon dragger tubes was  $\text{CO}_2$  which is given off by the lime and water reaction.
- Operators and ~~clean tech~~ <sup>labour</sup> departs.

1715 PCS departs.

1740 Security onsite. RM, OSC + TAT depart  
 EAllen

Due to odor problem on-site, work halted until problem can be worked out. Arrangements made to have level "B" PPE on-site for the 19<sup>th</sup>. Work will have to continue in "B" w/ continuous monitoring. Decision will be made at that time if level can be down graded.

Levels detected during air monitoring on-site w/ HNW by OSC:

Lagoon oil/sludge = 3-5 units, partially solidified sludge = 3-5 units, solidified sludge = 200-250 units, unused lime = 10-15 units.

xlf

Thursday Oct. 8, 1987

Weather - partly sunny - temp = low 40's - slight wind

0800 OSC, TAT, RM, PCS and 1 Tech on-site. Due to organic vapor problem on-site no work will be conducted for lagoon solidification - No level "B" PPE on-site.

Work will consist of securing site for shut down period e.g. winterizing equipment & closing up trailers.

0930 Conversation w/ Mr. Howard (Martin Marietta) and OSC Bulk. Mr. Howard stated that the last loads of lime sent to the site was "new stuff" - not partially activated. It may have residual sulfur and/or hydrocarbons from fuel used to run kiln. Also should be somewhat warmer 5-10°F than material that has been exposed to the atmosphere. Mr. Howard will be talking to Foreman and checking on material - Will call me back.

1030 1900-55's reviewed, completed and signed

Tech departs site after completing work

1100 PCS departs site

1115 Walk order meeting completed

1130 TAT Allen departs site

1145 Security guard on-site, OSC & RM depart site

EFB

Friday October 9 - Sunday October 18, 1987

Security onsite during this time.  
No onsite activities except on Sat  
October 17, 1987 from 0920-1305 when  
two EMC personnel arrived to place air  
bottle racks on all 4 pieces of heavy  
equipment. Authorized by ~~OSC~~ PM.

- Site shut down at request of Unit & Section Chiefs — ECB

Monday October 19, 1987 Weather: sunny,

• 40s - 60s

0845 RM and operators from MAECORP arrive.

Security departs site.

0850 OSC arrives.

0855 TAT and AG Agassanie. AGA was  
delivering breathable air for site.  
- Operators (billed as laborers) sets up  
decon line, sets up other things around  
the site and runs errands.

1145 One MAECORP equipment operator  
and two MAECORP laborers and the  
PCS arrive onsite. New personnel  
read and sign off on the safety  
plan. Safety discussed.

- Personnel onsite before 1200  
take 1/2 hour lunch break.

- Air bottles being placed on the  
stackers

1200 - Water delivery

- Organization of level B gear brought onsite in progress so that work can begin this afternoon or tomorrow morning in level B.
- Personnel directed to remove old lime s from the ~~top~~ delivery tanks and place in solidification area.

1410 Rural Service onsite to deliver diesel fuel.

1515 M. Benjamin, MAECORP, onsite picking up D-4. It will be returned to Grand Rapids office and then onto a private sector job.

1600 M. Benjamin departs site.  
 - Analytical has been a big topic of conversation. Verbal results were received on 10/9/87 from Wadsworth and Gulf Coast labs. Hard copy data from D-4 has been received and is the same as the verbal results.

- MAECORP K. Yost has told the PCS and RM that there are problems with the analytical. He had been reviewing the analytical from the TAT site assessment and reported to the PCS that soil sample

results had been reported in ug/L which is PPB. Upon review, the TAT, OSC and PCS reviewed the SA Sample results listed as ug/c were all liquid.

1630 Two operators, in Level B, begin solidification and soil staging. RM, OSC and TAT all enter hot zone. TAT, in Level B, provides air monitoring. Ambient readings were below 1 unit.

- On the NW corner of the lagoon, sludge that was solidified on Oct 7, 1987 had readings up to 10 units. The sludge that had just been solidified had readings up to 60 units.

On the NE corner of lagoon 3, the "old" sludge had readings up to 5 units and newly solidified material had readings up to 60 units. Lime had no readings above background.

- Downwind, on the southern side of the lagoon, the readings were up to 1.5 units.

- On the western side, southern end, there was a breach in the dike. Oil was moving down the back slope but had not made it to the flat area. Dozer closed the contaminated material up to the top of the dike and reinforced the breached area.

1700 Crew coming in to fuel equipment.

1730 Crew departs

1740 OSC and RM departs. Security onsite

1745 TAT departs.

E Allen

R.M. stated that demob of D-4 would not be billed to Griners site.

OSC expressing problem w/ present, set-up of analytical arrangements and QA/QC of data. Need to emphasize using qualified personnel to do task needed. Report of data needs to be to the site, not to someone's office! - EBB

Tuesday October 20, 1987 Weather: overcast, occasional rain showers, wind from W, NW, mid 40s.

0730 Crew, OSC, RM & TAT onsite. Security departs. Two EMC operators back on-site. MAECORP Crew consists of 1-Tech (for Level B work), 1-laborer, 2-operators, 1RM, 1PCS.

NOTE: At approximately 1700 last evening, the D-63E was stuck in the middle of the sludge pile on top of the lagoon 1&2 area. The Komatsu backhoe pulled out the dozer.

0800 - Solidification of lagoons continues. The lime from October 7 that was still onsite was used to solidify.

0900 Five two loads of lime received.  
- Solidification continues.

1000 - D-63E gets stuck in center of sludge staging area again. Other

equipment pulls D-63E out.

1225 Crew lunch. 1/2 hour break taken. —

NOTE: 1100, Second two lime trucks arrive. —

1400 Operator Carpenter gets splashed with sludge during solidification activities. He is moved through decon, scrubs areas that were in contact with the contaminated material and sent on a long break.

1500 Crew break.

Third two trucks arrive with lime. —

- Freddy Walker from MAECORP calls PCS about Wadsworth analytical results. Wadsworth has had some interferences between arachlor 1260 and 1254 and there have been some loss of PCBs in the cleanup procedures in the lab. Wadsworth is going to send an addendum to their analytical stating these facts. —

It is the personnel onsite ~~felt~~ opinion that the data presented by Wadsworth is invalid. —

1620 TAT Dave Hartman arrives for site visit and equipment drop off. —

1700 OSC, TATs Allen + Hartman enter hot zone.

H Nu reading on western area near yesterday's overflow were 4 units. The background was 1 unit. While walking around the eastern, southern and

the rest of the western perimeter of the lagoon, the readings were at background. While walking across the pile of recently solidified sludge on the NW corner of 3, ambient was 10 units. The pile of sludge at the NE corner of 3 was up to 50 units, the lime was giving readings of 10-15 units.

- The DVA was taken out but does not appear to be operating correctly.

1715 First two pieces of heavy equipment come in for fueling and air bottle change. After those two pieces have completed their maintenance, the second two arrive for the same maintenance.

1800 Security arrives onsite. Crew, RM, OSC and ~~BOILER~~ departs site.

1810 RM, OSC and two TATs depart site.

° Note: J. Carpenter had his neck and other contaminated areas scrubbed down with soap and water, alcohol, and then more water.

E Allen

At 0730 upon arrival of crew, safety meeting held to cover proper procedures of Level 6 PPE. All other safety aspects of site also covered (e.g. slip, trip, fall hazards, and heavy equipment operation and proper decon).

Wednesday October 21, 1987: Weather: partly cloudy, 36° at 0800. Occasional shower sprinkled in day.

0730 Crew arrives. Security arrives. Safety meeting held. Bands are now required to be worn by operators because of yesterday's splash incident. Operator Carpenter is at home at the hotel due to swollen glands and a sore ~~stuffy~~ throat. This is unrelated to the splash incident because he complained of a sore throat before the safety meeting yesterday.

0745 First two men huck arrived. EMC operator Cowell on the horizon will continue solidification while the two dozer operators will continue as before. The recovery time of Carpenter will determine whether another operator will be brought in.

0845 AGA arrived with breathable air cylinders.

0915 AGA departs. 5 empty bottles removed, 12 full bottles dropped off.

- One dozer moving soil on the E, S + W sides of lagoon 3 and moving lime up to the backhoe. The D-8 is spreading out the solidified sludge on top of lagoons

- 182 instead of mounding as before.
- 1000 Second two loads of lime received
- 1215 Third two loads of lime received. —  
Decision made to bring in a third EMC  
operator to temporarily replace the  
MAECORP operator on sick leave at the  
hotel. The MAECORP operator went to the  
hospital this morning and is not seriously  
ill, but not going onto air for at least  
one more day would be very beneficial.
- 1245 Crew lunch begins. 1/2 hours. One  
labourer takes slightly late lunch  
(7:15 minutes) to complete decon of  
last lime truck. —
- 1400 Fourth two loads of lime arrive. —  
- Invoice received today. OSC began  
approval but found many discrepancies.  
PCS aided in approval process by checking  
invoices and informing MAECORP of some  
problems. —
- 1530 FM departs for OK rental. He is  
meeting with Money to discuss billing  
discrepancies. It seems OK rental charged  
the billing price part way into the  
project and MAECORP did not discover  
this until all equipment had been  
returned to the shop. FM is off the  
clock at 1600 to attend to problem

business.

1600 EMC operator Peeler departs site for several business. ~~the truck~~ equipment was refueled and new bottles placed on it before departure.

- Onsite air monitoring occurs. Levels appear to be lower, highest was 20 units.
- Bleach on NW corner of lagoon 2 noticed. Oil was pumping out and running down the slope and collecting at the bottom.

1700 OSC and TAT enter hot zone to sample the oily material. The material can be heard bubbling up out of the ground.

- D 63E dozer the area to control the migration.
- Heavy equipment in for evening fueling and maintenance and air bottle change.

1730 - Tech Kios dropped an air cylinder on the top of his foot. His foot was ~~painted~~ bruised across the top. His foot was red and he was told to report to the PM first thing upon arrival at the hotel.

1800 Crew departs.

1810 OSC and TAT depart.

E Allen

NOTE: Security onsite this evening. E Allen

118

Thursday October 22, 1987 : Weather: partly cloudy, 36° at 0826,

0730 Crew arrives onsite. Three EMC operators onsite. 7 AT onsite. Crew safety meeting held. Safety around air cylinders stressed, any injuries are to be reported to AM immediately. Tools are to be worn and decon of masks is to be of greater importance to minimize chance of any lime burns.

0745 OSC arrives. First two loads of lime arrive. New operator has read and signed safety plan.

0800 PM enters hot zone to check on site progress.

0910 OSC Bill Simes arrives for site visit.  
- Decision made to send MAECORP operator Carpenter home. He does not seem

- to be improving. The doctor at the hospital suggested Mr. Carpenter return to his own doctor or the company doctor for throat cultures. The doctor could not find any evidence of chemical burn or contamination and the swollen/sore throat <sup>possibly</sup> due to his having a cold before he left Grand Rapids which was been aggravated by lie air. —

- Prices for EMC personnel over the weekend and specifically Sunday are being discussed.

1000 - Second two lime trucks arrive.

- Both backhoes solidifying material from lagoon 3 ~~ft. 8"~~ with lime. 2 dozers are moving material from solidification pile to on top of lagoon 1+2.

1215 - Third two lime trucks arrive. —

1245 - New lunch break for  $\frac{1}{2}$  hour. —

1400 - Fourth two lime trucks arrive. —

1427 - TAT onsite for air monitoring. Background readings at 6 units, highest readings on lagoon 1+2 was 5 ~~readings~~ units. Around the newly solidified material, the readings were around 10 units with a high of 20 units.

- Lagoon level is lower because of solidification. The level is down approximately 3-4 inches on the SE corner. —

1600 - D-63E pushing in eastern bank of lagoon 3.

- 1715 Heavy equipment begins coming in  
for bottle change and maintenance. —  
1800 Security onsite. Crew and RM depart.  
1830 OSCs Burk + Simes and TAT Allen depart  
EAllen

OSC Burk completes Polrep on computer in Motel  
after working hours. Also began construction of A.M.  
for ceiling increase. Increase needed due to contractor  
cost incurred for water treatment system. —

ECB

Friday October 23, 1987: Weather: partly cloudy, 40s in AM.

- 0730 Crew, OSC, RM + TAT arrive. ~~Safety~~<sup>SD</sup>.  
Security departs. Safety meeting held.  
Tools are still to be worn and equipment needs to be careful around  
loose banks. —
- 0745 First two lime trucks arrive. —
- 0811 A6 Agastuck arrives with 12 breathable  
air cylinders and departed with 14  
empty ~~cylinders~~ cylinders. —
- 0900 Phone lines are dead. RM drives  
up the road to inspect the line.  
The Ballville Township maintenance

Crew sliced the phone line while mowing  
the grass along Tyfun Rd and Rd 181.

- Konf Cleaning onsite to clean porta Johns

0900 - PCS departs to site to fix phone. To order  
more breakable air, phone repair and  
other site supplies.

0940 Rural Service onsite to deliver diesel fuel

1010 Second two lumen trucks arrive.

1020 - Ron Schreck, ERM Midwest, arrives  
for cleanup monitoring.

- Amendment of safety plan for Level  
B work completed and ready for  
personnel signature.

- PCS ~~on site for~~<sup>so</sup>, still on site for phone  
call to brands. Phone company working  
on phone line.

1030 PCS returns.

1045 Phone service restored.

1130 TAT enters site for air monitoring.

On top of lagoon 1+2, readings were around  
5 units, piles of solidified sludge had  
readings of around 10 units.

Weather: Hazy, cloudless and heading  
towards mid 50s.

- D-638 gets stuck in the center of  
lagoon 1&2, D-8 gets stuck trying to  
pull the 63 out. Louane needs to  
pull them out. Dozers, when pulled

- Out, continue to spread solidified material out on top of lagoon 1+2.

Trackhoes continue solidification.

1200 - D8 moving clean soil from the eastern side lagoon 3 to solidification area. Extra soil to be used in solidification process.

NOTE: Yesterday, mention was made of eastern bank lagoon 3 ~~was~~ being consolidated. This was incorrect. The material being moved was used by the trackhoes for ~~consolidate~~ solidification.

NOTE: Konst cleaning onsite this AM.

- Third two loads of lime arrive.

1230 - Lunch break for crew. 1/2 hour.

- After lunch, solidification continues. Sunshine, low humidity and slight wind is causing the solidified material to dry out nicely.

1400 Fourth two lime trucks arrive.

1430 - RM enters hot zone to observe progress, make completion time estimates and measure area of lagoon 1+2.

- With rough lagoon measurement estimates, volumes for 151 burns were estimated. These could be as many as 90 burns.

- Bills received for this site in Homewood have been retained here for placement on the 55s. One diesel fuel bill for \$24 was turned down by the OSC because there was no onsite documentation of the drop.
- The filters both inside of the carbon and sand cells were attempted to be billed but because they are part of the filter and the cells will not operate properly without them, they are N/B.
- Tow truck charges in Glenwood Illinois for the loading and unloading of water treatment equipment was allowed.

1530 Discussion held on analytical. OSC needs more sampling done to recharacterize the site due to analytical problems to date. The OSC wants bids done onsite by PCS and wants all verbas reported to the site. OSC calls Chris / & DCS calls Homewood to discuss this. The OSC and Mr. Chris Rice, MAECORP contacts officer, discuss situation. MAECORP stands behind their decision to have Freddie Walker doing all bidding in

Homewood. Mr Burk in turn calls Mr Bob Bauder, US EPA ERCS contract DPO. A conference call is held between Mr Burk, Mr Bauder and Mr Rice.

1600 Seneca Disposal onsite to pick up materials in the dumpster.

1630 RM reports to TAT that the Kamatsu backhoe has broken a hydraulic line. EMC is called for service. They will arrive tomorrow morning at the earliest to repair the line.

- The backhoe was fueled and the side of the trackhoe where the repair need to take place was deconed.

1730 Laborer departs site to pick up hydraulic oil and then return to hotel.

- Heavy equipment coming in fuel, lubing and air bottle change.

1800 Crew, DSC and TAT depart site.

E Allen

Saturday October 24, 1987 weather: overcast,  
rain off and on, 51° at 0800.

0730 Crew OSC, RM + TAT arrive. Security departs. Safety meeting. Crew is no longer supposed to wear yellow polytyvek (MAE-Corp policy). Because of rain, crew can wear PVC suits with white tyvek underneath. Crew attention to the job stressed because personnel are all familiar with task and site and could thus become lax in safety.

0810 First two lime trucks arrive.  
One operator (EMC) is onsite but because his machine (Kamatsu) is down, he is not operating. RM informs OSC and TAT that the operators waiting time is not

billable to the Government but is at  
MAECORP's expense.

0910 Ed Beckwith, MAECORP Michigan Division Manager, onsite for site visit. He + RM go to Crew trailer for meeting.

- Lorain backhoe continues to solidify the lagoon. Dozers are moving solidified material onto lagoon 1+2 and keeping Lorain supplied with solidification agents.

1030 Mechanic with EMC arrives to work on Kamatsu backhoe.

- Second two lime trucks arrive.

1045 - Crew break.

1105 Kamatsu backhoe repaired and back in operation.

1215 Kamatsu 63E dozer had <sup>had</sup> ~~had~~ the ~~brake~~ brakes lock on it. Steve Reiter (EMC truck driver with lime trucks) has said that upon inspection, it needs a mechanic - clutch + brake are stuck.

- Dozer to be drug across site from near air bottles area to decon area for decon

1230 - EMC repair personnel ~~of~~ dispatched to site.

1240 Steve Peeler (EMC operator) informs RM that dozer problem was the emergency brake ~~was~~ being on.

Greg Raynor (MAECORP operator)

was the operator of the piece of equipment and did not know where the brake was - and did not know he had put it on.

- Mr Peeler suggested to RM that a sheepfoot roller may be needed by Tuesday for solidified material staging.

- Third two lime trucks depart site.

Note 1115 Mr Beckwith departs with labour

- Tech Glinski Glinski being demobed.

1315 1/2 hour lunch break for crew.

1400 Fourth two lime trucks arrive. Lime deliveries for the day completed. Lime will be \$9.40 / ton today instead of \$8.70 because of higher wages of drivers. Sunday rates should have been even higher along with \$50 / hour for operators from EMC.

These higher Sunday rates were part of the decision to go on standby tomorrow (Sunday).

1430 Weather : heavy rain with some sleet. Temperature 61°.

1500 - Decision made to downgrade the dozer operators to Level C. One operator (D8 man) in deer trailer for dry clothes change. He suggests not working the rest of today because material is so muddy. Crew will break at 1600.

120:

1600 Security arrives. All personnel, OSC,  
TAT depart.  
E Allen

Sunday October 25, 1987.

Security onsite 24 hours.  
1248-1300 MacCorp tech onsite to start  
up generator.

E Allen

Monday October 26, 1987 weather: cold (40s),  
sunny.

0800 Crew and TAT arrive. Security  
departs.

0810 OSC arrives. Crew begins heavy  
equipment. Two lime trucks are  
onsite. Dozers are downgraded to  
level C. Roadway up to the lime  
pit is very muddy thus making  
decong trucks rougher.

1010 Crew break.

1020 Second two lime trucks arrive. Two personnel enter hot zone to decontaminate and guide trucks back to the dump site.

12.00 Fifth lime truck arrives. The second truck did not arrive with it.

1215 Crew lunch, 1/2 hour.

1330 Sixth lime truck arrives.

1400 RM, OSC and TAT enter hot zone to take samples & observe progress.

- Kamatsu backhoe used to pull three bagoon sludge samples and four depth/hench samples from lagoon 4.

15<sup>ED</sup> - Seventh lime truck arrives. Truck six had a flat tire which slowed him down.

1500 Eighth lime truck arrives.

- Crew break (except Kamatsu operator)

1530 - TAT, OSC, RM & Kamatsu operator depart hot zone for truck break.

1630 TAT, OSC & RM reenter hot zone for air monitoring and to complete the sampling. PCS has been acquiring bids for PCB analytical. 5 day turn around is what is desired. 10 day and 15 day turn prices also requested unless the first turn is met. Then, the slower turn prices are

to be used.

- Four samples along the north and west sides were taken, one sample of solidified material and one from lagoon 4 area.

- Air monitoring: Solidified material (today's) had no readings over 5 units. The lagoon 1+2 staging area had readings up to 15 units. This material was being stockpiled in the center and on top of lagoon.

1730 Crew begins fueling machines and changing aid bottles.

1750 Crew departs.

1800 OSC, PM + DAT depart.

E Allen

NOTE: AGA onsite this AM to deliver an cylinder.

EA

EOB

Tuesday October 27, 1987 : weather overcast, occasional rain, low 50s.

0700 Crew, TAT, OSC onsite. ~~Safety~~ Security departs. Safety meeting held. Dozer operators are to stay in level C, but closer air monitoring will be done to ensure their safety.

0715 Third EMC operator (Steve Peeler) arrives. He signs in at 0708.

0735- Machines started. D-63E is repairing the truck ramp. Lorain operator is greasing his machine and adding oil.

All personnel departed early (at night) but these tasks were not completed.

D-8 operator Kamatsu backhoe operator also adding oil and greasing machine.

0745 Both dozers working. Kamatsu backhoe operator stops so he can place air bottles on his machine. Loraine operator help place bottle.

0800 First time truck arrives. Truck cannot back up ramp so load is dumped on the ramp.

0810 Kamatsu backhoe backs up to the lagoon but just sits along side his pit. Unknown if he has any solidification material or if he is filling his pit. He did not have any solidification material at the end

of yesterday.

Lorraine hackhoe goes to change air bottles.

0830 Both dozers are moving solidified material.  
Kamatsu hackhoe is solidifying material,  
not just sitting.

0845 Lorraine hackhoe completed bottle change

0930 - Weather Clearing slightly. No longer  
raining.

NOTE: Two loads of lime have been  
received so far this morning.

0935 Second tub lime trucks arrive.

1005 Crew break begins after second  
truck departs.

NOTE Crew signed out of hot zone at 1010-  
1015. OSC and TAT checked sign out logs. —  
Crew was in crew trailer by 1005.

1025 Crew reentering decon trailer to  
dressout.

1035 Crew out in hot zone.

- OSC and TAT pack 16 samples for  
shipment to Gulf Coast labs for  
PCB analysis.

NOTE 0930 OSC requested from  
MAECORP (Freddie Walker) a  
position on the lab analysis  
(Wadsworth). Is MAECORP going  
to reconcile off of the 55's the

Cost of the Wadsworth samples. The OSC would like a reconciliation because the samples are incorrect.

-OSC also informed the PCS that on Friday he was going to either sign the invoice with corrections or sign the invoice for \$0.00.

1130 OSC departs for Krejci site in Summit County Ohio.

1205 Third two lime trucks arrive. Crew out of hot zone for lunch break and in the crew trailer. Tech Rios in hot zone decomming truck tires.

(Operator Raynor signs out of hot zone at 1209, 3 EMC operators sign out at 1225 when they were in the crew trailer at 1205).

1250 Crew members return to decon trailer to dressout.

1400 Seventh lime truck arrives.

1410 Eighth lime truck arrives.

1500 Crew told to come in for break.

1505 All crew members out of hot zone (Some signed out of hotzone at 1500 and some at 1510).

510 Dick Harrington + Fred Sanders onsite. They visually inspect tank area from Level I area. Shears are impact shears.

- run by an air compressor.
- 1530 Crew returns to decon trailer and signs back into hot zone at 1535<sup>30</sup>.
- 1550 Lorain trackhoe comes in for a check; the pin is cracked on one of the ~~petals~~ pedals & needs to be repaired. Operator ~~Cowell~~ coming into the trailer to phone EMC for repairs. Operator measures bolt before calling in.
- Two dozers are throwing dirt around tanks. White tank moved south and will be placed back by the other two when soil movement has been completed.
- 1610 Lorain is to have bucket and front end cleaned (deconned) so that when EMC repair personnel can get out here, the equipment is ready.
- 1630 Rural Serve onsite. All equipment being<sup>30</sup> both dozers filled with fuel from tanker. Kamatsu trackhoe changed air bottles. Kamatsu D6 dozer is moving soil on top of bagoon 1<sup>30</sup>.
- 1700 EMC repairman onsite. Both dozers in decon area. D-8 had had hacks picked. Kamatsu trackhoe fueling,
- D-8 operator completely through decon
  - D63E operator picking hacks.

Kanabu trackhoe operator starting decom.  
Brain Operator aiding repair process. —

- RM informs TAT that everyone is leaving.

1710 D-8 operator departs. —

1715 All operators and techs ~~are~~ onsite. —  
RM, PES, TAT and EMC repairman  
are still onsite. —

- RM departs. —

1730 Security arrives. Federal Express  
arrives. PES departs. EMC repairman  
completes repairs on brain trackhoe and  
departs site. —

1740 Federal Express departs. 16 PCB samples  
sent to Gulf Coast labs. —

1800 TAT departs site. —

E Allen

NOTE: RM informs TAT that the union  
operators receive 2, 4, 8 or 10 hours pay  
per day, not just the hours that they  
work. Thus the 9 1/2 hour day today is  
billable 10 hours. —

EA. —

AB

Wednesday October 28, 1987: Weather: clear,

sunny, low 30s at 0700, high 40s at 1200.

0700 Crew, TAT arrive. Security departs.

- Safety meeting held. Safety around  
~~tank cleaning~~ cutting operations  
discussed.

0705 Operators head to decon trailer. —

- New EMC operator has called in  
and will be late (overslept). —

0720 Operators in hot zone warming up  
equipment, D8 warmed up. —

0800 Dave Lyle, new operator from ERM,  
arrives, reads safety plan, signs  
off on safety plan and Q.

0820 Mr. Lyle enters decon trailer. —

0830 Fuel truck arrives. The  
scale at the ~~station~~ Martin-Marietta  
is broken. The trucks are having  
to travel elsewhere to be weighed.  
This will add time to their turn  
around. —

0920 Two EMC personnel onsite for tank  
cutting operations. They were  
planning on cutting the tanks into  
three pieces and smashing the  
pieces with the dozer, but the  
bid price for the cutting was for  
cutting the tanks into 6x6 or 7x7

pieces. EMC has bid a flat price on the tanks and have today, tomorrow and Friday morning to complete the job. EMC has been informed that they can work the same hours as us and nothing more.

1000 Crew break.

1030 Crew back into hot zone.

- Second two lime trucks arrive.
- Cutting crew begins. Their 'shears' appear to be more a small jack hammer than shears.
- Soil has been moved into the lagoon to condense the area. It appears that the soil was just shoved into the lagoon not trying to move the southern area north, nor just shoving dirt into the lagoon. There were also several areas where oily material was beginning to seep down the embankment. D-8 and D-63E moved over to shore up the leakage areas.

- Air monitoring onsite. NEA western area is very muddy. Mud up to 18" deep.

1100 Crew out for lunch.

EMC cutting crew departs without signing out.

1230 Crew heads back to decom trailer.

130

NOTE: All of the tanks were moved southward into the old water treatment area. They ~~were~~ <sup>are being</sup> cut up there and the sludge underneath removed to the solidification area.

1305 Doug Spencer, EMC, onsite to view cutting operations and his crew operations. The white tank has had one end cutoff and part of one side.

1345 Third two lime trucks arrive. —

1500 Cutting crew departs. Tomorrow they will return with a third person and a second air chisel.

NOTE: Water delivery of 2000 gallons received at 1130.

1505 Doug Spencer departs.

1515 Crew break.

Fourth two lime trucks arrive. —

1600 OSC Burk arrives from Krejci Site in Cleveland Ohio.

- He is taken on site ~~to~~ tour to view tank cutting progress.

- OSC informed of crew departing early (15 min) yesterday. RM had told TAT that union operators were paid 2, 4, 8 or 10 hours regardless of actual hours worked. OSC disagreed and said that union or not, personnel

we're going to receive pay for the hours worked only. 55s have been changed to reflect this. RM called EMC Doug Spencer who backed up the hours worked, law paid philosophy and said he will come out onsite tomorrow morning to inform crew of this.

1700 Heavy equipment being brought in for fueling, lubrication and track picking. —

1730 MAECORP+EMC personnel depart site —  
Security onsite, —

1745 TAT and DSC depart. —  
E Allen —

ECB

Thursday October 29, 1987: Weather: sunny,  
high 30s at 0800.

0700 Crew, cutting crew, OSC and IAT arrive site. Safety meeting held. Cutting crew is to be left alone to do their work. Onsite safety and decon to be watched to ensure adequate levels are met.

0715 Doug Spencer, EMC, onsite to talk to EMC personnel.

0740 Crew starting up equipment and checking fluid levels that have to be checked cold.

0750 Tank cutting begins. Three men and two cutters being used.

0800 First two lime trucks arrive.

D 63E has been moving tank pieces for the cutting crew.

1000 Trackives continue solidification. Dozers are moving solidification material and stockpiling solidified material on top of lagoon 14a.

-Cutting crew has cut up one flat piece of the white tank into ~~the~~ small pieces. Two men are working on the second flat piece. One man is working on the smaller of the two railroad tank tanks.

-An oiler has been attached to both cutting hammers. There does appear to be some oil on the equipment. Cutting crew

was requested to use yellow tyvek that will retard any oil the workers come into contact with.

- 1015 Solidification crew takes break. Cutting crew on a flat bid contract and <sup>are</sup> on their own schedule  
 - Second two lime trucks arrive. Tech stops in to decon trucks.
- 1100 TAT into hot zone for air monitoring background at 0.6, around the NE corner readings were up to 30 units. On top of the stockpile, readings were up to 50 units.
- 1140 Cutting crew departs hot zone and then site for lunch. One piece of equipment needs repair. EMC will bring out parts after lunch.
- 1200 Crew out for lunch break. 1/2 hour.
- 1230 Lunch over RM off site over lunch break for lunch and personal errands
- 1300 Third two lime trucks arrive. 16 tons is the maximum allowable weight for these trucks. They had been carrying up to 19 tons. Average weight had been over 17 tons per truck.  
 - Several MAECORP employees stop by site to view it.
- 1345 - Steve Loomis, EMC, arrives with spare parts and stops to complete

The Cutting operations

1515 Fourth lime truck set arrives.

Trackhoes are solidifying bagoon material and the dozers are moving the solidified material.

1530 Crew break.

1615 TAT does air monitoring on perimeter. Readings are two units or lower.

NOTE: Cutting crew is wearing white tyeek. They are all four covered in oil. The TAT and OSC told the RM to have the cutting crew wear either poly laminated tyeek or PVC suits.

The crew was to have switched at lunch time. The tanks were filled with PCB oil up to 2000-300 ppm.

Tomorrow, the cutting crew will wear PVCs or poly tyeek.

1700 Cutting crew departs.

Heavy equipment coming in for daily fueling and maintenance.

- Work order and work report completed.

1730 EMC personnel, MAE DRP, TAT and OSC depart site.

Security on-site

Efb

Friday October 30, 1987: Weather sunny partly cloudy  
temperature in low 40's.

0700 Safety meeting held. Covered decon of equipment  
from tank cutting crew & need to wear proper  
suited for the task. Also covered general task and  
task specific hazards on-site.

Tank cutting should be complete by 0900 hours —  
Continued problem w/ EMC operator Don - will not  
be coming back on Tues!

0730 First two trucks of lime arrive - will only be  
receiving 4 loads today.

As of 0725 workers still not dressed and on-site - 1st truck  
driven w/ lime backed up on-site w/o anyone else  
being on-site to spot truck.

0745 Finally all personnel are on-site and equipment is  
moving, except for the Lorain Air bottles still being set.

0915 Tank cutting complete. Equipment used being deconed  
and EMC personnel will be departing site.

Last two loads of lime for the day are delivered.

Lagoon solidification & sludge staging continuing on-site.

0930 D-8 stuck on top of lagoon #1 near Lorain work  
area - again!"

1900 SS's have been submitted, reviewed and given back to  
the R.M. for signature.

0935 EMC operator Don out of site on own accord is informed  
by R.M. to call it a day, since it would take so long  
to get dressed and back out on site.

0945 Representative from ERM-Lubrizol - on site - out side

hot zone to observe progress and to take video from platforms in adjacent fields.

1000 Begin securing site for weekend. - Equipment being fuel and secured.

1100 Site secured equipment set for the weekend. trailers & generators secured.

EMC and MACECORP employees depart site. RM and OSC remain on-site for security guard.

1130 Security guard on-site for weekend. — OSC and RM depart site. — GBy

Tuesday, November 3 sunny, breezy, warm hi 80°

1145 TAT Baker and AM Enlund on site after weekend.

1200 All macecorp personnel arrive on site  
Two loads of lime arrive. Site safety meeting held paper decon and level  
B procedures discussed change out for  
track hoe operators from level C to B  
and back also discussed.

1215 EMC personnel servicing Lorain. Trucks dump lime in pit. Crew solidifying  
sludge and staging some.

TAT did Air monitoring round, check perimeter and site before work started.

1400 Second loads of lime arrive. Water truck on site making delivery. Last loads of lime for day. Small dozer pushing in south and west sides of lagoon #3. 2000 gallons of water delivered. D-8 spreading out

Staged contaminated soils on top Lagoon #1 and #2

1500 Crew taking break. AGA air bottles replaced by EMC, 12 bottles.

1600 TAT enter Hot zone to do air monitoring.

Solidification ponds have readings from 6.0 to 7.5 units. On top of Lagoon #1 and #2 readings from 3.0 to 5.0 units.

Operators continue to mix dirt with sludge and stage solidified sludge on top Lagoon #2.

1640 Operators taking turns bringing in their equipment for servicing and fuel. Track hoe operators changing out air bottles.

1700 Ran out of diesel, both trackhoes did not get fuel. Diesel ordered for first thing Wednesday.

1730 MAECORP and TAT report site security on-site Baum & Baker

EB

- 1445 Crew taking break. Very windy, beginning to rain.
- 1515 Crew not working due to high winds and rain.
- 1530 Crew returns to work.
- 1600 Skies clearing becoming sunny. Heavy equipment taking turn fueling up. Work continues on mixing and staging sludge dirt.
- 1715 Heavy equipment comes in for fueling and service.
- 1730 Guard arrives on site. All personnel depart site.  
Break

Thursday October 1, 1987: Weather: cold (40s),  
windy.

- 0700 All personnel arrive. Security departs.
- 0715 Crew enters hot zone to warm up equipment. All treatment area equipment is staged ready for demob.
- 0730 Press Express tape truck arrives. TAT Allen into the hot zone to monitor poly tank for cleaning.

Today readings in the 4000 gallon poly tank were at background, 0.8 units.

0753 Crane arrives. Loading of equipment begins. The sand filter is sprayed off as it is lifted onto the truck.

0810 R+R water hauling arrives to fill up the poly tank next to the decon trailer and the one placed on the NE corner of the hot zone for equipment decon.

0840 R+R water hauling departs.

- D-8 ~~operator~~ operator is leveling and cutting into the bank at the NE corner. A pocket of water is hit. The D-8 continues to dig into the bank approximately 40 feet south of the NE corner. The bank is excavated approximately 5-6 feet inwards without ~~any~~ any liquids or sludges being hit.

- D-63E gets stuck on the lagoon edge (NW corner lagoon 3)

Allen

0850 TAT Baker enters hot zone to air monitor clean out of 4000 gallon poly tank. Readings at 1.2 units, background at 1.0 units.

1000 Roll off box load by crane onto low-boy.

B. Baker

1000 - One loading time dust received. Truck contacted from EMC.

- Wednesday November 4, 1987 partly cloudy hi 70
- 0650 OSC Burk, TAT Baker and all MAECORP on site. First two loads of lime on-site. Safety meeting held, soft areas on top of lagoon #1 + 2 discussed and proper decon entry and procedures also discussed.
- 0730 Equipment warmed up and beginning solidifying sludge and staging.
- 0900 Rural serv<sup>ers</sup> on site to deliver diesel. Second two loads of lime arrive.
- 0915 Crew Taking Break, after filling up trackhoes with diesel.
- 0940 Verbal on samples received from MAECORP. GULF COAST called 1740 on 11-3.
- 1040 Third loads of lime arrive. Dozers continuing to spreading contaminated soils as trackhoes mix sludge and lime.
- 1140 TAT monitor perimeter of site. Background level 1.0 unit with gusts of wind to 6.0 units.
- 1220 Crew taking lunch break.
- 1245 Fourth two loads of lime arrive during lunch break. Driver unloads truck without spotter.
- 1445 Fifth and last two loads of lime arrive. Dozer stuck for second time today. Dozer <sup>GRD cleaning</sup> pushing <sup>BMD</sup> west side of lagoon.
- 1500 Crew Taking break
- 1550 TAT does Air monitoring on site. Readings range from 9-20 units near the mixing pits.

- hi 70°  
on  
te.  
2  
on  
1600 Dozer gets stuck again while pushing  
solidified sludge for staging.  
1700 Equipment operators taking turns bringing  
Equipment in to refuel. The Lorain has a  
hydraulic leak. EMC will be on site  
to fix hydraulic hose.  
1730 Crew, OSC, And TAT depart site.

Bear w Baker

FCB

Thursday, November 5, 1987 clear, cool Hi 45°

0700 TAT and MAECORP and OSC on site. Safety  
meeting held.

0715 First three loads at line arrive. Crew on site  
small dozer will start pushing clean road back  
on site off of Farm Field. EMC personnel fixing  
broken hose on Lorain.

0800 Lorain is Fixed and back working. Both  
Track hoses solidifying sludge with lime and  
D 8 staging material.

0800 Second three truck loads at line on  
site. Will be getting 3 trucks at a  
time today to keep ahead of the track hoses.

140

- 0945 Crew taking break. D-8 is stuck again. Having very hard time staging contaminated soils from NW pit. Am checking into availability of getting a wide track.
- 1215 Crew taking lunch. Steve Reiter from EMC is leaving. Steve Judy from EMC is replacing him. Fourth three loads of lime arrive.
- 1430 Fifth and last, three loads of lime arrive. Trackhoes continue solidifying sludge with lime. D-8 staging contaminated soils on Northwest side of Lagoons 1 and 2. North-east side still too wet to track across.
- 1530 TAT enters hot zone to do Air monitoring. Readings are lower today, nothing above 6.0 units. Wind has been high all day.
- 1645 Heavy Equipment being brought in for fueling, servicing and changing out air tanks. New trackhoe operator set his bucket on clean road as he filled his machine.
- 1730 Crew, OSC and TAT depart site. PCS stayed on site as security had not arrived. Note: security did not arrive until 1815.
- Brown & Baker

BB&

Friday November 6, 1987 clear, hi 50

0650 OSC, TAT and MAECORP crew on site. security departs site.

0705 Safety meeting held Proper handling of bus Air tanks discussed. First three trucks at lime dust arrive.

0720 Air tanks being removed from D-8 and put on Track hoe as replacement D-8 will be decon by road way on top 14' goon #1 and changed out for a wide track Monday (Nov 9) A.M. Lime trucks unloaded and tire deconed before leaving site.

0940 Ron Schrock with ERN on-site to take video pictures from perimeter. Crew taking break.

1030 Ron Schrock leaves site. Third set of lime trucks arrive on site. Track hoe working North west pit spreading solidified sludge out to help firm up the area around the NW pit staging area as the D63 can not work in the area because it is so soft.

- 1110 TAT enters hot zone for air monitoring. Lime pile reading at 10-12.0 units. On top solidified material 5-6 units.
- 1120 Rural service delivered diesel. ~~D63~~<sup>D63</sup> D63 pushing in southern berm. Sludge in lagoon looks thicker than 3 days ago. Bubbles are coming out of puddles on top lagoon #1 and 2. The HAU picked up no elevated readings.
- 1200 Crew takes lunch break.
- 1315 Clean Tech deconing D-8. Trackhoes continuing to mix lime and sludge.
- 1500 Last three lime trucks on site. Crew taking afternoon break.
- 1545 TAT enters hot zone to do air monitoring. Readings on HAU next solidifying pits in 5-10 range.
- 1645 Operators taking turns bring in equipment to be serviced and fueled.
- 1730 Guard on site. OSC, TAT and MAE CORR depart. Brown W. Balor

16

Saturday November 7, 1987 weather: partly cloudy  
high 60°, slight breeze

0650 Crew, OSC and TAT arrive on site. Security departs  
Safety meeting held. Proper dress out  
discussed along with watching out for  
dump trucks as they back up to dump  
lime<sup>bags</sup> loads. Recon of D-8 will be  
finished today.

0700 First two truck loads of lime arrive.

0724 Third loads of lime arrive on site. Track does  
not continue sludge solidifying operations. D-3  
is grading around southern and eastern sides of  
lagoon #3. The dirt is being used to push in the  
southern berm. Recon of D-8 is finished.

1200 Crew taking lunch break.

1235 Fourth + two loads of lime dumped. Two more  
loads ordered. D-8 staged for demob.

1400 TAT doing Air monitoring. Readings from  
north west solidifying pit 10.0 - 15.0 units.  
North east pit readings were 400 - 500 units.  
This pile contained more lime.

D-3 adding additional soil (Free board)  
to the southern berm of lagoon #3.

1450 Heavy equipment being brought in for  
fueling and service.

1510 Burnt wire smell noticed in office trailer. Smell  
coming from near furnace. All power to trailer

shut off. Extension cord will be ran from crew trailer to provide heat for security guard.  
 1535 Site secure. Security guard on site —  
 Crew, OSC, and T&T depart site. —

EB

Sunday Nov. 8, 1987

- No on-site work - security on site — EB.

Monday Nov. 9, 1987

Weather - overcast temp. ~40°F —

0800 MAECORP crew, EMC crew on-site. —

0815 OSC on-site New wide track dozer arrives and D-8 taken off (demob) Air bottles w/ breathing air have not been delivered —

3 loads of lime delivered on-site. site wet - had to use 1/2 load to dry up access ramp for lime trucks Electrical problem w/ trailer still not corrected - electrician was to come out yesterday and did not. do now suppose to be at the site between 1000 - 1030 —

0830 following safety meeting work crew on-site to continue lagoon closure tasks. —

0930 1900's received and reviewed. —

1155 S. Maty & M. Sullivan (TAT) arrive on-site to begin review analytical of site. —

All info regarding toxic was transferred to Sally and data packages taken back to Motel for

review process.

9 - load of lime accepted on-site.

1300 - 1330 Crew takes lunch break.

Wide track done! working good! Should have had wide track as requested by OSC the first day of the project.

1400 3 more loads of lime delivered to site. Will have a total of 15 loads today.

- More problems w/ generator - op'd will be moved Lt down from Toledo today. Not sure what time should be able to hook up first thing in the morning.

Work continuing on-site as before.

- Note: Water delivered on-site at ~1300 hours

1630 Last loads of lime delivered at site.

\* 1600 PCS completed work and departed site.

| MECORP person running errands to pick up supplies.

1700 "New" generator arrives on site. However the piece of equipment is old and doesn't appear to be reliable. There are no sides to the generator case, and there is concern that the exposure may cause the equipment to fail.

Equipment is being packed & guarded.

1730 MECORP personnel depart site

Security guard on-site

1735 OSC departs site

ECB-

Tues Nov. 10, 1987 - Overcast slight breeze - mid 30's.

0700 OSC MAECORP and EMC personnel arrive at site.  
Conduct safety meeting - proper PPE dress out pro-  
cedures to be used. Also proper decon procedures

0715 Electrician arrives on site to connect new  
generator. Still no hook up - lack power (i.e. lights  
and heat).

0730 Operators begining to warm up equipment. Work  
to continue towards lagoon closure.

TAT members at Motel review data. Initial  
response from TAT Matry is there appears to be a  
problem w/ lab and also MAECORP QA/QC program.

0745 Generator that was delivered is deemed unusable.  
The fuel tank leaks and there is no way to protect  
equipment - No sides on case.

0800 TAT Elise Allen arrives on site

0835 third EMC lime truck arrives - will be waiting  
for other EMC trucks due to this driver not being able  
to wear level C to back trucks on site.

0945-1000 Crew takes break - have accepted 5 loads  
of lime so far today.

1000 TAT's Matry & Solloman arrive on site to continue  
work on review of analytical data

1115-1245 Crew takes lunch

Window broken on decon trailer - top blew off of  
gas tank - not secured and hit window

1430 New - different generator hooked up, however  
it fluctuating and breakers in trailer are

kicking off). Electrician will be fixing generator originally on-site and bring it out to the site tomorrow afternoon.

Site work continuing - lagoon closure progressing quicker - due to ice reduction, is being pushed in from sides much more rapidly.

1600 MAECORP informed from home office that tomorrow is a holiday and pay will be ~~1/2~~ rate (OT). Will not greatly effect this site due to limited number of MAECORP people on-site.

EMC trucks running behind - have been stopped by DOT safety inspectors - two were tagged w/ violations. Will only be able to receive 14 loads today.

1710 Trailer repair man on site to fix wiring and motor on furnace.

1705 Crew off site and in back trailer - have all signed out of hot zone at 1720. Will have to talk w/ RM and crew to take care of problem of cutting work early.

1720 Work crew - MAECORP & EMC depart site

1730 TAT and RM depart site

Security on-site

1750 OSC departs site

EBC

Wed. Nov. 11, 1987 Veterans Day

Weather: Partly cloudy light breeze - high 30's to low 40's.  
 0700 OSC, TAT and METCORP on-site - conduct safety meeting - make sure log sheets used properly  
 had discussion regarding time problem w/ workers coming off site early - taken care of.

TAT Mary will be taking copies of analytical results back to office w/ her for someone to review - review will occur on Thurs.

0735 Two lime trucks arrive

0755 Third EMC truck arrives w/ lime

0830 1900' 55' received for review.

0905 Crew takes break - Was initiated by crew members not by RM. Appears to osc that RM is losing control of crew, if he hasn't lost control already.

0945 Person from Trico Plate Glass onsite to repair windows broken in decon trailer.

- EMC delivered a 55 gallon drum of hydraulic oil (\$2.75/gallon). All four operators helping unload drum and place on drum stand.

NOTE: EMC mechanic onsite first thing this morning to perform minor repairs on their Wedgetack dozer.

1145 Crew breaks for lunch when PCS returns from errands.

- Invoice received by onsite MAECORP personnel from Holiday Inn. Single rooms are being billed at \$41 + tax (as per agreement) but the double rooms have been billed at \$46 + tax. - RM and PCS are investigating the situation by checking past invoices and talking to hotel management. OSC had signed a bid sheet for hotels but neither PCS nor TAT can find it in their files. This believed to have been taken when PCS Larry Hill took all site paperwork.

1300 Lime truck ten and eleven arrive.

1310 Lime truck twelve arrives. TAT Allen onsite for air monitoring. Levels are around 5 units around the lagoon but up to 30 units on top of the NW sludge pile.

- D63E dozer gets stuck on the western bank of the lagoon. The wide track dozer is not able to pull him out. The Kamatsu trackhoe attempts to help pull out the dozer but he too gets stuck. The trackhoe

is stuck in the NW corner of the lagoon. It is buried half way up the counterweight. Using the cable (towing cable), the Loraine backhoe and wide track dozer both attempt to pull out the backhoe but it cannot be done.

1430 Crew breaks to attempt to plot strategy for removing the equipment.  
- Lime trucks 13, 14, 15 arrive.

1440 Operators return to hot zone. Loraine is going to back around the site ( $E \rightarrow S \rightarrow W$ ) and ① remove D63E dozer  
② remove the backhoe by digging around it and then removing.

1500 Lorain backhoe gets stuck after removing D63E. Wide track pulls out Lorain.

- Diesel received.
- Lagoon continues to fill in ~~out~~  
around backhoe as it is dug out.

1700 Able Equipment has completed switchout of generators. 1000 KW unit has been returned and Hamilbeck Electric has switched over to the second unit.

- Dozers have fueled up. Two more tow cables have been

ordered from EMC for the AM. The Kamatsu backhoe will be braced from falling into the lagoon with the dozer and lorain.

1730 Crew, OSC and TAT depart.

NOTE: only the dozers fueled up last night. The loraine needs fuel and an bottle change out.

E Allen

6CB

Thursday November 12, 1987

Weather: cold (high 20s), sunny at 0700.

0700 Crew, OSC and TAT arrive. Site safety ~~pls~~ meeting held. Procedures for extracting the Kamatsu backhoe. Extraction needs to wait for the two new cables.

0710 Two cables arrive. First set of three lime trucks arrive.

0720 Personnel are just entering the hot zone. Trucks are being brushed off for decon because the generator is being serviced. Once generator is back

- 0800 On line.
- 0830 Power washer is partially frozen.  
Lorain comes in for an air bottle  
change but because of a truck  
waiting for decon, is unable to change  
bottles. Lorain goes to fill up with  
fuel.
- 0815 - Power washer is partially frozen.  
When personnel wash off the truck  
fires, they only washed off the  
back two fires and the front one.  
OSC wants better truck decon  
and on this truck, MAECORP complied.
- 0830 One dozer pushes all piled lime into  
the lime pit. There are five loads  
of lime available at the present  
time on site; two from yesterday  
and three from today.
- 0845 AGA truck arrives to deliver air.  
- Attempts still being made to extract  
truck fire from lagoon.
- 0905 - Tech departs to pick up parts for  
pressure washer. Second set  
of lime trucks arrive.
- 0940 Ron Schmack, ERM Midwest,  
arrives onsite.  
- RM informs OSC that the  
truck hole is being removed from

The lagoon then. All equipment is coming around the south end of the lagoon. Crew taking break after.

- 1015 - After break, Lorain has air bottles attached and begins solidification. -  
 - The Kamatsu fuelup and cause greasing and oiling machine. He then goes back to work on picking all of the sludge and other material out of his tanks.

NOTE: Lime delivery stopped for day.

There are eight bags of lime stocked onsite.

- 1041 Ron Schack departs site.

- 1125 Kamatsu backhoe is parked by the bottle (air) area.

Generator hours:

1000 kw:  
 (~9/1/87) 08445.6 (start hours)  
 (~11/7/87) 09528.6 (end hours)  
 1083 hours

45 kw:

(11/7/87)	08728.6	Start hours
(11/11/82)	08760.3	End hours
		31.7 hours

11/11/87 09528.6 hours on 1000 kw

- 1215 Crew lunch begins, 1/2 hour.
- 1245 Tech departs to pick up more parts for the power washer to decon the back of the Kamatsu trackhoe where it had sat in the lagoon.
- Crew continues solidifying the the lagoon and moving soil into the lagoon. The area torn up by the trackhoe has been smoothed over by the dozers.
- 1350 Tech returns with parts.
- Operator of Lorain informs RM that they have 1-1 1/2 hours of time left OSC had shut time delivery off after the second round. Decision made to send operators home after 8 hours and keep the tech to clear the Kamatsu.
- <sup>1500</sup>  
1445<sup>ed</sup> Wide track comes in to fuel. Lorain gets stuck leaving its solidification area. Lorain is extracted, it fuels and then parks.
- 1530 Operators and PCS depart site.
- 1555 TAT departs.
- 1600 Tech and RM depart.
- 1630 Security arrives. OSC departs.

E Allen

ECB

Friday November 13, 1987

Weather: clear, sunny, 40° at 0730.

0700 Crew, OSC, TAT arrive. Safety meeting held.

- Watch areas tracking over. If a piece of equipment gets stuck, investigate on foot before going in to help.

0810 First three<sup>rd</sup> lime trucks arrive.

0915 Crew comes out for a break. ~~Lorain~~ Lorain operator was out of lime.

0945 Second three lime trucks arrive.

1030 Heavy equipment coming in for fueling and maintenance.

Dozers worked on pushing the lagoon banks in and making sure there was sufficient free board and moving the solidified material onto the top of lagoon 1+2.

1100 Crew departs site. Security onsite. Konot Cleaning onsite.

1110 Konot departs.

1130 OSC and TAT depart. Site secure for weekend.

E Allen

Saturday, November 14, and Sunday, November 15, 1987  
No work on-site - security on site - BN B

Monday 16, November, 1987 clear, breezy, hi 65°  
1200 TAT, MAECORP, and EMC personnel on-site.

Safety meeting held. Discussed dress-out  
and decon procedures. The west side at  
Lagoon is still wet, equipment except  
for wide track will stay out of the area.

1215 First three loads of lime arrive -  
on-site. 6 load coming to day. —

- Trucks dry decon<sup>bus</sup> as pound was not  
set up yet. —

1245 TAT does air monitoring at perimeter.  
Track hoes solidifying sludge and staging.  
Both dozers are pushing in lagoon  
edges. Wide track is working the western  
berm. Also spreading staged material  
on top lagoon 1 + 2

1335 Last three loads of lime are offloaded.

1430 crew taking break. Rural & one serv  
delivering diesel. —

1520 063 got stuck pushing up western edge at L4500N #3. Operator of 063 had been warned about taking 063 along western berm because ground is soft and wet.

1600 Trackhoes about to AF line. Kamatsu trackhoe being brought for fueling and lubrication.

1615 Lorain coming in, changing air tanks, and fueling. Dozers continuing to work.

1625 Dozers fueling up for tomorrow.

1645 Security on site. TAT and crew depart site.

Burn & Baker

Tuesday November 17, 1987 light rain, windy, H163

Rain predicted for all day.

0655 TAT and all crew on site. Security departs during safety meeting wet condition discuss. Moving equipment in mud and not getting stuck, or losing a piece of equipment into the lagoon.

note - Farmer who owns field along entrance road (181) stopped PCS yesterday afternoon as she left site (1600) and told her he didn't want us driving on his field. Stacks and caution tape will be put up to mark boundary at road and field.

0730 light rain continues. Equipment armed up and moving across site.

0753 First three loads of lime arrive on site.

0630 pushing up edge of berm to south, staging soil to be added to berm as needed. Berm and free board will be watched throughout day as rain continues. Wide-track staging solidified sludge on top lagoon #1+2. Power washer deconing wheels of lime trucks as they leave hot zone.

1000 last of second three lime trucks departs site. Crew taking break. Clean tech returns from running errands.

1032 Crew back on site after break. The three EMC operator have Radio Stack Radios with them.

1057 seventh load of lime being dumped.

1110 Garbage truck on site to dump trash dumpster.

Eighth load of lime arrives.

1125 Ninth load of lime being dumped.

- note H2S not noticed since 0930.

1150 Crew taking lunch break.

1235 Light rain started again.

1300 Fourth three loads of lime arrive on site —

Lorain coming in to change air tanks.

work operations continuing same as this morning —

1430 Last three loads of lime being dumped.

Kamatsu track hoe coming in to change air tanks.

Clean Tech arrives on site after running errands.

1500 Break being taken by crew

1556 TAT enters hot zone for site inspection and air monitoring. Readings downwind of solidified sludge piles range from 10-20 units. On top of lagoon #1 and #2 gusts of wind drove readings to 0 units.

Barrels in decon line for tyveks etc do not have any plastic bag liners.

1630 Wide-track and kamatsu trackhoe coming out to fuel up.

1700 Lorain fueling up. Dozer operators scraping off tracks and bottom side of dozers —

1730 Crew leaving site for day. TAT departs guard on duty.

Bonne à Babs

Wednesday, November 18, 1987 cool, cloudy High 42°

0650 TAT and MAECORP crew on site. One EMC operator (wide-track) demobs at 1100. Will be replaced by MAECORP operator ~1330.

0700 Safety meeting held, RM Talked about wet condition due to last night's rain.

Safety around the lime trucks was mentioned.

0730 Equipment being warmed up.

0740 First load of lime arrives. Lime dumped on road way to lime pit as road is too muddy for trucks to run up ramps.

0802 Second <sup>and third load</sup> lime arrives. N63 dressing up side of lime pit behind decon trailer.

0815 Third truck can't get his bed to raise. Pulled off site and worked on PTO. Went back in hot zone and dumped load. Clean Tech was <sup>3rd</sup> washing at truck with power washer.

0915 AGA on site to change out empty air bottles - first of second three lime trucks dump load.

RM leaves site to check hotel room at clean tech as a case of duct tape is missing.

0945 Crew taking break. Clean tech reports missing duct tape was found behind a stack of boxes in decon trailer. Misting rain has started.

0950 RM returns to site.

1040 PCS leaves site to run errands and get lunch.

1100 EMC operator prepare to leave site. MAECORP operator now using wide-track.

- 1130 Crew taking lunch break. Last two load of lime for the third trip (total 9) arrive on site.
- 1340 Eleventh load of lime dumped.
- 1440 Crew taking afternoon break.
- + 1509 OSC Burk and MAECORP operator arrive on site. MAECORP operator reads and signs site safety plan. RM goes over safety plan and site duties. He will be operating the wide track.
- . 1520 LAST 2 LOAD OF LIME ARRIVE. TOTAL OF 15 FOR DAY
- 1600 PCS LEFT SITE FOR DAY. SHE WILL BE PICKING UP NEW CLEAN TECH TONIGHT AT BUS STATION IN TOLEDO.
- 1700 WIRE ON GENERATOR SPLITT WHILE SERVICING. DANLEICK ELECTRIC WILL HAVE TO FIX WIRE IN MORNING. EQUIPMENT COMING IN TO FUEL AND LUBRICANT MACHINES.
- WIRE WAS CUT BY DOZER OPERATOR WHILE SCRAPPING LIME STONE GRAVEL OFF ROAD.
- 1715 GUARD ON SITE. DANLEICK ELECTRIC SHOULD BE ON SITE TONIGHT.
- 1730 MAECORP + EMC CREW OFF-SITE. DANLEICK ELECTRIC ON SITE TO FIX WIRE.
- 1740 RM, OSC, AND TAT DEPART SITE.  
RUMBLE W BALE TRAILER.

Thurs, Nov. 19, 1987.

0650 OSC bulk on site. RM already on site - Security Guard sent home by RM. - Has progressively decreased the security hours - (e.g. RM coming in earlier & earlier) is non billable time, however, do not know why RM is coming in so early.

0700 MACCORP & ERIC crew on site. MACCORP has sent a new Tech to site to replace Reos, has to leave site due to personnel business.

0705 Site Safety Meeting - New Tech to review & sign off on S.S.P. - A new drive will be established for lime trucks. a clean area will be used so that no washing will be needed

0755 TAT Allen arrives from Cleveland. —  
First three loads of lime on site. Old drive still be used.

0800 OSC Burkhoff arrives. Down for site visit at OSC <sup>BURKHF</sup> request.

Solidification continues with backhoes. Wide back dozer moves material on top of lagoons 1&2. D-63E dozer is moving in sides of lagoon from the southern end of lagoon 3.

0945 Second set, three lime trucks arrive.  
Crew break taken.

OSCs and TAT view site, progress & discuss future plans.

1100 Tech Rios and PCS depart. Rios is billable until 1100 after which tech Gallata (sp?) is billable. Mr. Gallata's room is NOT billable on the previous evening and only 4 rooms should be billed. → PCS's time is nonbillable while she is taking Mr. Rios to the bus station. —

- As of 11/18/87, \$1506.70 has been spent on the power washer. The purchase price listed by MAECORP is \$2637. —

The power washer is a Honda G 400 with maximum power of 10 HP, 406cm<sup>3</sup> engine. Number PG4-2000 on its side. —

- As of the second set of tucks this morning, the new truck ramp has been used. The truck ramp is just south of the decon trailer. Gravel from the road was pushed in for the road. The tucks back in and can dump without leveling. —

1300 Konst cleaning onsite. —

1330 lunch break for crew. 1/2 hour. —

1400 Rural Service onsite for a diesel drop. OSCs Busk and Dohlop hold a meeting with the crew to discuss what they want done this afternoon. They want the dozers to push the material S→N on bogen 3. While pushing, the dozers

are also to ride over the material and head as far north as they can without getting stuck. RM not present during this meeting.

NOTE RM very concerned about funds left in the ceiling and whether or not the ceiling increase had been asked for. ERCS has ~\$17,000 as of 11/8/87 55.

1445 Dozers are able to ride over the lagoon. Both backhoes have continued to solidify with lime but the dozers are pushing the sludge towards them.

1500 OSC Burk speaks with RM about project. He tells Mr. Emburnd what has recently been accomplished with the dozers and that order only 3 definite loads of lime for tomorrow.

- DPO Steve Fayer and Elenor from Contracts have both called Mr. Burk because MCORPS contracts officer, Chris Rice, has called them inquiring about a ceiling increase request.

OSC Burk is drafting a ceiling increase action memo and requested DPO Fayer to release the ERCS contingency funds for approximately \$18,000.

1530 Crew break. OSC's Burk and both ho, RM Emburnd and TAT Allen joined the

the crew in the crew trailer to discuss work plans. The backhoes will cut at least one trench northward from where they are towards the center of lagoons 1&2. The dozers will continue to push material northwards.

- A puddle of water was noticed at the foot of the old hick ramp. When originally noticed, it was assumed to have been from the hick dozer, but a stream was noticed running down the ramp. The water is believed to be leaching from the sludge on top of lagoon 1&2.

1600 - Crew back to work. D63E levels out area where water is ponding and covers area where the water was leaching from the slope.

- Trenching begins on top of lagoons. — After the initial flow, the backhoes ~~keep~~<sup>stay</sup> ahead of the dozers.

1700 - Wide back dozer gets caught in the muck on the western side.

- He is pulled out by the other equipment. All equipment fueled.

1740 Crew departs.

1755 TAT Allen departs.

1800 OSC's depart. Security onsite since 1730.

E Allen

Friday November 20, 1987: Weather: Slight  
dusting of snow overnight, 38° 0715, over-  
cast, chance of more snow.

0630 R Marries (Nonbillable time). Releases  
security.

0700 Crew, OSC Burk, TAT Allen onsite.  
Safety meeting held. Extra careful  
attention ~~the~~ needs to be taken to ensure  
that no equipment ends up stuck.  
The wide track is to attach a cable  
to its back end so that if it gets stuck,  
it will take less time to remove.

- Operators were asked how much time  
they thought they would need. Due  
to the snow and increased moisture,  
fifteen loads are going to be delivered  
and stockpiled for tomorrow because  
of increased price on Saturday.

0720 OSC Dollhop arrives. First three  
trucks to arrive.

- Equipment has hydraulic oil added before start up.

0800 Trench continuing to bedug by both backhoe operators. Both dozers are pushing northward with the material.

0800 - OSC Duthoff departs for G1 office.

0900 - Second three lime trucks arrive.

0920 - D63E dozer gets stuck at the NE corner of lagoon 3. The wide track dozer pulls him out. Loraine gets stuck but is pulled out by other equipment.

0930 Crew break.

1000 OSC + TAT enter hot zone to view progress. A slurry of black material noticed in the trench where the backhoes were digging. Samples were taken from two places in the trench. Both samples were field homogenized and split. Samples will be held and analysis decided upon at a later time.

1100 Third set of lime trucks arrive. New pump still being used but the pit is full.

- Decision made to have trucks dump along the old road but not very far up.
- Truck decon will need to be done.
- Material in the lagoon is very

thick and is not moving quickly towards the trench. There is water on the top of the lagoon and that is moving quickly towards the trench. There is also large amounts of water ponding on top of the lagoons. The water has been leaching at the solidified material.

NOTE: 1000-115 Ron Schack from EPM was present to provide PTF monitoring.

1205 Crew out for lunch break.

1215 Fourth load of trucks arrives. Trucks are dumping along the roadside and are sprayed off upon departure.

1230 1245 Crew back into hot zone.

1350 R+R water onsite to deliver 2000 gallons of water.

- Three extra loads of lime ~~not~~ requested today for a total of 18.

1420 Fifth set of lime trucks arrive.

- OSC reports that ~~other~~ dozers are using the blade overflow material for the other dozers to drive on. The dozers are working in tandem and seem to ~~be doing~~ have caught onto the idea.

1515 Crew break and meeting. OSC, RM and Crew discuss progress.

1530 <sup>et</sup> meeting over.

1540 Sixth set of lime trucks arrive.

NOTE: During the 2 1/2 hour period yesterday (11/19/87) when the PCS dropped Tech Rios off at the Toledo bus station, the PCS was nonbillable. Because this was during the 8 hour regular time period, the last 2 hours were OT (5 1/2 hours regular, 2 OT). OSC said no & it was charged even though the RM + PCS disagree.

1605 Snow showers periodically during PM. Snow showers are often followed by sunshine. Temperature has dropped and winds have picked up.

1630 Heavy blowing snow reduces visibility for all operators. Storm front has moved in in the last five minutes. Crew brought in early to fuel and set for evening. If weather clears, they will also pick truck and do additional maintenance.

1645 Weather cleared slightly. Temperature has dropped to 29°F.

1700 All personnel, except Lorain operator are off site.  
out of hot zone.

1700 All personnel except OSC depart site.  
Security onsite.

1800 OSC Bulk departs.  
E Allen

Saturday November 21, 1987: Weather: Clear,  
19°F. Temperature only to rise to ~25°F. —

0630 RM arrives, relieves guard. RM time  
nonbillable. —

0700 All personnel, OSC and TAT onsite.  
Safety meeting held. Because temperatures  
are low, the ground will not be as soft  
as before. —

- Because of cold, equipment is hard to  
start especially the trackhoes. Their  
hydraulics are slowly moved + more oil  
is added. —

- Dozers continue moving soil + sludge  
northward. Trackhoes continue to  
solidify material in the trench. —

0900 Crew break. —

0920 Crew continues —

1030 Perimeter monitoring round.

Dozers have cut the size of the lagoon down to a very small amount. One backhoe helping to push sludge into the trench. Material not flowing well because of the cold.

1215 lunch 1/2 hour.

- After lunch, 063E ~~was~~<sup>is</sup> deconned was begin. Because of cold, power washer is not cleaning off the mud and grease. Ice is forming. Diesel used to cut grease.

1315 - Work continues. 9 PM goes out to help decon 063E. It is being deconned on the slope leading to the fuel tank.

1430 OSC and TAT enter hot zone to pull samples from lagoon. Samples 108+109 are from lagoon sludge.

- Ice is still causing decon problems. Water is running down slope onto the roadway. If enough water were used, the water would flow onto the adjacent field. Decon area will be moved.

1502 OSC + TAT out of the decon area.

- Equipment coming in for fueling and preventative maintenance.

1530 Security onsite. All personnel, OSC and TAT depart.

E Allen

Sunday November 22, 1987.

Crew on standby. Security onsite  
E Allen

Monday November 23, 1987: weather: 43°at 0820  
overcast, chance of rain

0730 RM arrives and relieves security

0735 First lime truck arrives. RM lets  
him dump.

0740 Second ~~plus~~ time arrive. Second  
and third lime trucks arrive.  
Second truck ~~dumps~~ arrives.

0755 All crew and TAT onsite. RM sends  
all crew members immediately into the  
decon trailer. No safety meeting that  
the TAT knew.

0830 Both backhoes continue solidification.  
Wide backhoe continues moving material.  
- 063E operator continues to decon  
the dozer. He begins using diesel

ADA cleaner.

0820 OSC Bulk arrives.

0920 Lime trucks arrive.

~1000 Crew takes break.

- Solidification process appears to be slower than before. Track holes are solidifying the material in the trench which is even slower than the pits. Heavy winds are blowing the lime around quite a bit.

- Dozer decon continuing.

1050 PM informs the OSC that the new wide track dozer will not be here until 1200. It was originally promised for 0800 and as of start up this morning it was delayed until late morning.

- OSC questions the statement made by the PM that permits cannot be gotten on ~~W~~ weekends while Krejci Dump site received a permit over <sup>the</sup> weekend to demob at 15.

1115 After PM informed OSC that the Recco dozer would not be picked up until tomorrow, Gilbert Trucking shows up to demob the equipment.

- Decon was hasty completed and the equipment was demobed. Demote decon did appear to have been complete.

- 1200 Crew lunch.
- 1230 EMC arrives with new D-6<sup>ED</sup> T P dozer.  
Piece of equipment is entirely clean.  
Equipment did not arrive with a  
full fuel tank so it will not need to  
be shipped out here full.
- 1315 Air monitoring round on perimeter.  
Southwesterly wind, background at 1.0,  
high reading of 2.6 units.
- 1330 TAT Allen enters hot zone for air  
monitoring while back dozer (Raynor)  
gets stuck in material on southern  
end of lagoon 3. When the other back  
hoe (Thompson) came to pull it  
out, it also got stuck. Kamatsu backhoe  
pulled around to try and extract both  
dozers.
- 1410 Crew break taken. Both dozers still  
stuck. Operator Thompson was covered  
from mid-calf and mid-forearm down  
nearly to his fingers. Operator Judy helped  
decon him. Due to oil passing through  
the white terry work by the operator,  
Mr. Thompson's pants were removed  
and a set of coveralls worn.
- OSC Burk helped operator Thompson  
change and found the spare coveralls  
while the RM sat on break in the crew

trailer. This was after the OSC requested his assistance. OSC Dollhopf arrived during this period of time. The RM appeared to be more anxious about OSC Dollhopf alone with his crew than his operator being properly deconed.

1425 Crew back to work.

- Fifteen loads of lime have been received. —

1510 - Wide track (Thompson) has been extracted.

- Wide track Thompson and Kamatsu trackhoe are both trying to remove wide track. —

1540 - Lorain trackhoe has moved around to aid removal. RM is out on lagoon area in a white tyvek and from a distance. Also appears to have flushed out the tyvek and has probably soaked through in oil. —

1555 Tech informed PCS that the Lorain has broken something and is overheated. —

1605 OSC get off phone with DPO Bowden Mr. Bowden informs OSC that RM Emlund informed MECCORP contract person that he was not receiving written directions (eg: work order and work report) on a daily basis. Work orders and work reports are filled out daily and over 90% of the time, the RM received a copy of the completed form. Personnel who have witnessed a work order/work report meeting: Bill

Simes, TAT's Sally Matz, Melodie Sullivan + Billie Giles. TAT personnel audit has been received/completed and did not find work orders or work reports not up to date.

1630 Both degassers put and continuing to move material. Rain prep for work tomorrow and maintenance.

1700<sup>1845</sup> All equipment heading in for fueling and daily maintenance.

1730 All MAECORL personnel depart site.

1800 OSCs Bunk and Dollhopf and TAT depart.  
E Allen

in

Tuesday November 24, 1987: Weather: overcast,  
 37° at 0800, chance rain, high in 50s. —  
 0700 All MACCOP personnel onsite. RM talks to  
 TAT Allen & OSC Burk before safety meeting  
 about equipment schedules. Safety meeting  
 held. Personnel protective clothing levels were  
 discussed. If operators wear white tyvek + get  
 stuck, they need to return to the decon area  
 to get a PVC suit and rubber boots before  
 trying to dig out the machine. If one or two  
 people are trying to dig out a machine and  
 are wearing PVC suits, then all people  
 in the area must wear PVCs.

0720 Personnel begin digging out. —  
 - OSC Dollhopf arrived before safety meeting.  
 - Mechanic from EMC onsite to repair  
 loran tank belt.

0730 - R+R water arrives to deliver 200 gallons  
 of water into the decon end poly tank. —

0740 R+R water departs. Crew onsite. Lorane  
 operator helping the repairs. —

- Kamatsu trackhoe is placing lime out  
 onto the lagoon area to aid solidification.  
 OSC's report that it is going well.

0800 - Rural Sewer arrives to deliver diesel. —

0815 - EMC mechanic departs. Lorane opn-  
 ational.

0820 Rural Sewer departs.

Kamatsu backhoe is moving slightly solidified material into the trench. One dozer is pushing the material pulled out of the trench and other dry solidified material south onto lagoon 3 to try and solidify the wet material. Second dozer (Haynor) is pushing and leveling lagoon 1+2 area.

0900 Operator Cowell (EMC subcontractor)

is now to be billed as a clean task until the Lorain has been disconnected. This arrangement has been approved by EMC management.

0930 Crew break.

0940 Ron Schrack, ERM, on<sup>th</sup> at site for PRP viewing.

0945 Crew break over. Both dozers working on lagoon 3 area while Kamatsu left to solidify material in the trench.

- Operator Thompson suggested using backloaders to move material northward from the south end of lagoon 3.

The edges would be shaved off bucket by bucket and moved up to lagoon 1+2. This would move lagoon 3.

- All of the operators onsite do not believe that they can push lagoon 3 material after they have removed

The top foot or so because the lower material is too soft.

- OSC Dillropy calculates that this would take approximately 1 week (7 days) with 3 - 955s or 977s, 7 hours actual work time. -

1210- Lunch break,  $\frac{1}{2}$  hour. —

NOTE Dozer (Thompson) ~~has~~ is stuck in the middle area of lagoon 3. Other dozer and ~~track~~ Kamatsu backhoe are working on removing it. G&T stuck around 1100-1130. —

1240 Crew back to hot zone. —

- Tech Gallati & joins tech Cowell in clearing the dozer backhoe

NOTE: OSC Burk departed for Kijiji Dump site at 0915. —

NOTE: Official verbal notice from EPICS ceiling increase of \$90,000. This started being used on Sunday. Yesterday was a \$10,000 day and thus less than \$80,000 is left. —

1315 Dozer out of lagoon. —

- Kamatsu backhoe uses bucket to move bagged tyvek and contaminated PPE into the solidification trench. This material will be ~~do~~ covered and disposed of by

ISV. —

1345 - Dozer (Thompson) is moving material north along the western edge of lagoon 3. He is scraping the edges to move the

~~7415 20~~ lagoon on top of lagoon 1+2.

1430 Crew break. RM had been using the power washer on the boom of the dozer while the two other people continued to scrap and clean the rest of it.

NOTE: Resco Equipment called this morning to ask if the D-63E had been properly cleaned. PCS informed them that a cleaning solution KES (Quisol + Diesel) had been used to clean the equipment and that it had been properly done. Resco was calling because the new manager of the equipment said that the machine smelled funny.

1530 EMC operator Cowell informs RM + OSC Dozer op that the dozer is hollow on the inside of the tracks and that a trench needs to be dug so they can crawl underneath and clear it.  
- Operator digs trench + the two operators Cowell + Tech Gallati crawl underneath.

- Komatsu backhoe continuing to solidify.
- Dozer (Thompson) moving soil northward on western side.
- Dozer (Raynor) cleanup southeast side of lagoon 3 and fill in lime

holding pit with soil scraped from old road south of lagoon 3.

1640 Lorain decon of undercarriage is completed. Trench is being filled in. —  
- Kamatsu backhoe completes solidification activities. Removes bottles and heads for decon area.

1700 Equipment coming in for fueling and daily maintenance.

- Lorain having the water blaster used on it to remove final contaminants. —

1730 MAECORP personnel depart.  
- Kamatsu backhoe was moved to decon area. Lorain backhoe needs final touch up work for final decon. Dozers parked by the decon trailer and prepped for night.

- Security onsite. —

1735 TAT, OSC depart.

E Allen

Wednesday November 25, 1987. Weather overcast, rainy, mid 40s.

0630 PM Arrives and relieved security.

0700 Crew, OSC, TAT Arrive. Safety meeting held. Due to rain, dozers will not be moved. All personnel onto decon of back-hoes. Personnel to wear PVC suits and gloves as well as Roban boots and face shields.

0715 Crew goes to work.

- OSC Burk calls requesting hoses that the EPA purchased be taken back to G1 by OSC Dollhopf.

0730 - The four operators are all working to decon backhoes. All operators are billable as clean techs.

0830 - RM informs OSC that EMC and Resco have both been informed that their backhoes will be available for pickup starting this afternoon. EMC will pickup on ~~the~~ Friday. Both pieces of equipment are off of the bill as of Wednesday afternoon.

- Bids being solicited for clay to cap

The sides of the treatment area.

- Lorain deconed and parked along the road awaiting demob.

0950 Kamatsu backhoe exits decon area. Both backhoes buckets are being scrubbed down to remove final traces of dirt.

- OSC Dollhopf requested RM to level haulers but RM said he himself would not do it and even when asked about the crew doing it, was not receptive to the idea. RM said he did not know if he knew how to level the haulers and was not really sure how many people it would take.

1000 - Crew comes out of hot zone. Cleans up decon line, loads power washer into van (OSC Dollhopf requested it be demolished over the break), loads hoses into OSC Dollhopf's truck and works on securing the site.

- Dozers not used today to move soils because the dozers might get stuck or might make the lagoon situation worse than it already is.

1030 All crewmembers depart.

1045 PCS + RM depart.

- TAT checks Kamatsu backhoe and finds some material still underneath the back of the counterweight and up and under of the hoe.

184

1055 Security arrives. —

1150 TAT departs —

Eallen

Monday Dec. 7, 1987

Weather: Overcast mid 30's slight precipitation —  
0950 OSC Burk on-site. RM Eldridge already on-site  
site conditions appear to be O.K. - Both track hoses  
still on-site. Resco equipment was to remain, however  
EMC track hoe was to be demobbed per work orders and  
conversations w/ RM's and Mr. Rice (MAECORP) on 12-1-87  
and 12-3-87.

0955 Remaining MAECORP crew arrives. PCS arrived at 1015. —  
Work crew RM and OSC discuss work plan and schedule  
for the site - Site to be stabilized and equipment  
deconed and demobbed - Work to be completed no later  
than 12-11-87.

1030 Work begins on-site - 2 dozers staging soil.  
MAECORP did not mob operable radios, also do not have a  
pressure washer. Is suppose to have one available from  
a facility in Toledo.

1155 TAT Baker arrives on-site.

1340 PCS returns with lunch, after helping Blazer  
get started. Crew breaking for lunch.

1355 Crew starting back to work. Crew took afternoon  
break at 150 since quitting time is 1600-1630.

1510 OSC, TAT, and RM enter hot zone to survey site.  
2-3 feet of standing water on south east  
and s.w. corners. Dozers leveling off crown on  
staged sludge and pushing to south west corner.

18b.

1600 crew departs site —

1630 RM and TOT depart. security on duty. —  
Bonne & Bonjour

Tuesday December 8, 1987 Drizzling, cool Hi 48°

0700 All personnel on site. Safety meeting held.  
Discussion of proper dress out for deconing equipment  
(i.e. PVC suits, Face shield etc..) and using pre-filters  
was held. Dozers will finish leveling site  
before deconing. Clean Tech will leave  
site to pick up pressure washer. —

0930 Dozer operators start gross decon of undertracks.

0950 RW Schrake with ERM on-site to take video from  
off site. Clean Tech returns with Able  
Equipment and pressure washer —

1030 Crew returns to work after break. Trying to start Lorain  
so it can be moved to locate power washer.

1100 Lorain wouldn't start. Resco TRACKhoe <sup>but</sup> just used to  
picked up power washer and rocketed it for deconing  
equipment. —

1315 Crew taking lunch break. Track hoe has been deconed.

Crew will start on Dozers after lunch.

1400 ACE trailer on site to remove crew trailer

1500 Crew break. Dozer should be decon inhoff have.

Track hoe still no fully deconed. General site clean-up  
being done for demob.

1630 TAT and MAECORP personnel depart site. Guard  
on duty.

1810 OSC leaves for day

- down w Baker

1

18'

next

Hees

c

icks.

rom

Wednesday December 9, 1987 Raining mid-upper 40's

0700 TAT and MAECORP crew on site. Safety /  
work order meeting held. General prep to demob  
and finishing decon at dozer will be done today.

0715 OSC on site. The bottom of the resco

Track hoe is being decon for third time.

- 0900 Resco on site to pick up Track hoe
- 1000 Crew takes break. Dozer has been deconed
- 1100 Crew continuing to pack and demos decon area and site in general.
- 1317 AGA GAS on site to remove air bottles.
- 1515 EMC Truck on site to demos one 0410 wide track dozer.
- 1630 MAECORP crew finished for day and sent home.
- 1700 OSC, TAT, And RM leave site, PCS waiting on guard.
- 1730 PCS leaves site, security on site.

Brown & Baker

Thursday, December 10, 1987 Partly cloudy high mid 40's.

0700 All personnel on site. General clean up and packing planned for today, Demos at Lorain, And Dozer.

2-Ton And MAECORP <sup>driven and</sup> On site to be loaded with equipment.

- 0830 EMC on site with low boy and flat bed to remove <sup>dozer</sup> Lorain. Battery has to be re charge.
- 0845 OSC Burk and TAT Baker leave site to talk with Mr. Molyet (local Farmer) about storing 2 poly tank for next couple months. His daughter said it was ok.

0915 Poly tank demob across road to Mr. Molycut's barn yard.

Petrolator on site to remove propane tanks from Office Trailer

D41P dozer loaded on low boy.

1015 EMC Trucks leave with dozer and counter weight for Lorain.

Rural serve on site to drain diesel.

2-Ton and ~~mac~~<sup>mc</sup> CORP driver depart site with Recon  
Trailer.

1110 EMC low boy on site to remove Lorain.

Three MACCORP clean Tech depart to pack and  
get lunch.

1225 EMC departs site with Lorain.

1305 Rural serv on site to demob fuel tanks.

1310 OSC, RM, and PCS return to hotel to check out. TAT  
on site for demob of equipment.

2.

# RECORD

SITE LOG.  
GREINERS LAGOON

7530-00-222-3525  
FEDERAL SUPPLY SERVICE  
(GPO)

Tuesday 5-31-88

1150: On-Scene Coordinator (OSC) and Ed Burke and TAT member Ann Patchek arrive on-site. Weather: clear skies; Temperature in low 90's mild wind from the west. Already on-site were Response Manager (RM) Craig Burrows, PCS, 1 tech, and 1 operator. Crew had been on-site since 130. Equipment on-site includes: office trailer; 2-ton truck; 1 ton truck; 5 kw generator, safety gear.

OSC, TAT, RM, operator tour site. OSC explains to RM what is required. OSC wants to close site, this will entail the following:

- Remove gravel driveway on east end of site at least up to the point where gravel is off of former's property.
- Replace excavated gravel with fill + seed.
- Smooth off and square off top and sides of ~~lagoon~~ landfill.
- move contaminated soil from top of southern lagoon onto landfill area and back fill + level off southern lagoon (old lagoon #3)
- scuff sides of landfill with clay (no more than 6 inches)
- entire landfill should slope such that run off will into a drain on the north east corner of the site.

1215: Tour completed. Crew sits up

Office trailer + generator

1345: OSC, RM leave site to speak farmer whose property we are on. Tech, PCS leave site to arrange for water delivery, security.

Clay, port-a-johns, 2nd Doser

operator removes EPA signs around site.

OSC informed TAT + RM that he will have to leave site temporarily to sign manifest for K+S circuits. OSC anticipates returning this afternoon to discuss sample analysis requirements. OSC Burk will be on-site tomorrow + will turn site over to OSC Shari Kempke.

1400: OSC Burk off-site; PCS + Tech return on-site. Tech + operator pick-up phone line which had been shredded since last time on-site. RM, PCS sign-off on safety plan.

1500: crew completed charging signs, picking-up phone line + taking an inventory of supplies. ~~in accord of~~ 1530 Security has not arrived on-site. RM opted to leave site with no security.

Everyone off-site. OSC authorized time back at hotel for RM + RS to get bids for 2nd dumper; water; sample analysis.

Am Patches

6/1/88 wednesday

Weather: clear skies. Temperature expected to be in the 90's.

0730: TAT, OSC, RM + operator on-site. Awaiting ~~1<sup>st</sup> delivery of soil Dozer + fill~~

0800: Rest of crew arrives on-site.

0820: SITE SAFETY MEETING: Major Hazard is dust — OSC mentioned that half face or painters masks are not recognized by OSHA. ALSO dust can be absorbed through the liquid in eyes. most dust will be generated when on top of hill. Once backfill is on top of lagoon + clay on sides there is no need for protective clothing i.e. seeding.

• 10 hour days 0700 to 1730.

OSC anticipates working through week-end + would like to have fill stock piled for the week-end.

OSC wants a defined clean line w/ boot wash

OSC estimates approximately 6,000 cu feet of clay needed to cover seeds.

Assume 205 feet x 15 foot slope x .5 foot depth  
x 4 sides = 6,150 cu feet.

MOB time is 6 hrs from Chicago +  $\frac{5}{8}$  hours from Grand Rapids.

1020: Paperwork complete + up to date. First 2 loads of fill arrived — no dozer on-site yet.

1030: TAT, RM, OSC inspect delivered fill. It was unacceptable. Fill did contained lots of rock (large rocks) + twigs. RM is going to cancel EMC order + call other companies. OSC left site to pick up Shari — replacement OSC.

1100: 3<sup>rd</sup> truck load of fill arrived. It was the same as the first two loads + consequently turned away.

1130: RM + PCS Back on-site. Fuel tank will arrive on-site soon.

1145: Shari Kampke + OSC Burk arrive on-site. EMC Representative Doug Spencer arrived on-site to meet w/ OSCS + RM. 2 more truck loads on-site. OSC told Doug Spencer to have the trucks dump their loads. There was some question the numbers on the truck slips. Doug said he could only check for the weight of the trucks. 4 loads have now been delivered. OSC authorized mscos to move them D-4 - to be leave by tomorrow morning.

1315: Fifth load of soil was delivered. This load of fill was darker, wetter, less rocks + more acceptable.

1330: Dozer arrives on-site.

D63E Dozer 1051 Kamatsk

1415: Loads 6+7 of fill have been delivered.

1430: 8th load arrives

1515: 9th load arrives on-site

Dozer operator spreading fill.

1530 10th load. We were given a ticket #F of a rejected load.

1600 11th load delivered. OSC Burk off-site will return on FRIDAY.

Work order for tomorrow complete

1645: Operator began moving gravel off road. Security on-site

2 more loads of gravel arrived. EM was informed that the scales were turned off at the gravel pit. 1 more load of fill will be delivered today.

1720: Last load of the day delivered. Dozer began to spread + complete work for day.

1730: Everyone off-site.

Ann Batchelor

6-2-88 Thursday: weather: cool, cloudy, rainy  
Rained last night - Temperature in upper 50's  
Temperature expected to rise to mid 70's

0650: Every on-site; Security off-site, site

0700: Safety meeting: level C, water for dump trucks, change out filters (dust) often -

Keep robars in the cab of the dozer.

Try to keep machine in clear zone as long as possible.

0730: Soil delivery company Maple Grove arrived on-site.

0745: 4 loads delivered.

0800: loads 5+6 delivered. Dozer on-site.

Pressure washer arrives.

Transporter for D4 is

0900: Port-a-john should be arriving today.

Both fill companies are running loads of soil.

Both Dozers are working south of lagoon #3.

0925: D4 Dozer out of gas. OSR leaves site to make phone calls.

6-

0940: Diesel fuel delivered on-site.

along w/ fuel tank.

1035: Maple Grove brought their 15<sup>th</sup> load & said it was the last.

1100: OSC/TAT call their offices - try to get a hold of Ed Burk - not in.

1120: 1 crew is working sides & top of lagoons 1+2  
shoring up sides & flattening top.

Other crew is working south of lagoon

3. Water delivered on-site at 1130.

Note: Today thus far we have received

15 loads of fill from Maple Grove & 4 loads from EMC. One load of EMC did not have a ticket.

12:00 Received missing ticket - 7 loads received in total from EMC, 15 from Maple Grove.

12:45 OSC/TAT go for lunch. Crew still working waiting back.

13:35 Port-a-johns arrive on-site.

13:45 crew back on-site for afternoon break.

1504: Both Dozers working on lagoon 1+2. Note: Before lunch the D-4 Dozer got stuck in lagoon 3 trying to scrape off the black sludge.

Rm reported that the black sludge was soupy. He feels that the lagoon should be covered with more fill or that other heavy equipment is needed. OSC Kamke & TAT attempted to call OSC Burk. He was unreachable by phone. will call Hampton Inn tonight.

1530: OSC/TAT dor level C and take a site tour to look at sludge on lagoon 3. There were sink holes ~~contap~~ created by black sludge oil coming to the surface, approximately 12. However the western half of lagoon 3 was quite solid & could be used to begin leveling & squaring off lagoon 3 and the corners of lagoon #2. Apparently the operator found more sludge & some water at the NE corner of the site. we might have to leave this corner protruding & simply square it off.

1630: OSC/TAT out of lot zone. RM took operator over to lagoon 3 to begin leveling once again. OSC Kunkle spoke to OSC Beerk, who encouraged us to have soil from lagoon 3 pushed on to ~~soil~~<sup>sludge</sup> the SW corner of lagoon 1+2.

1730: Both Dozers got stuck in Lagoon #3. can't be pulled out. will need a worker. Everyone went to look.

1810: Everyone off-site. Security on-site at 1800.

Am Patched

Note: RM & Operator carpenter stayed on-site last trying to get a worker. They couldn't get one until the AM of 6-3-88.

6-3-88 FRIDAY. WEATHER: SUNNY CLEAR SKIES.

TEMPERATURE HIGH EXPECTED TO BE IN THE LOWER 70'S. SITE SAFETY ~~PART~~ MEETING:

MAINTAIN DECOU LINE; WATCH OUT FOR TRUCKS/DOZERS;  
Level C.

0730: Crew on-site; fill begins to arrive from Maple Grove; awaiting tow truck —

Sample Analysis for the 11 PCB soil samples is set up with A+B Lab, Westland, MI. —

Detection limit of 1 ppm requested; QA/QC requested = spikes, dupes, % recovery —

0820: Both barges removed from Lagoon 3. —

It was decided that its best to stay off of Lagoon 3 + complete 103 — prep for clay complete Road + filling in low areas —

south of lagoon 3. TAT leaves site to make phone calls, buy film —

1005: TAT back on-site; was given TAT cost update by Sally Maty:  $5-8708-14 = 46,189.88$   
 $5-8708-14A = 23,218.69$ ; week of 5/13/88 =  
 2.5 (Hartman)  $520/88 = 14$  (Elie H/bu + Ann Patchett);  $520/88 = 11$  (Hartman).

1122: SS's submitted. OSC/TAT walked site to inspect progress. Both felt that operator was doing a very mediocre job. Money shown.

1200: OSC/TAT leave site to go for lunch. EM enters Hot zone. SS's reviewed.

RM running dozer. RM was unhappy w/ operators performance.

1300: RM reported that when scraping the east side of lagoon 1, they hit sludge. RM feels he can not make this slope look like the North Slope because of the sludge. RM also reported that when the D-6SE Dozer was towed from Lagoon 4 - water seeped into the grooves made by the tracks.

The south end of lagoon 3 is almost complete. The filled in area now needs to mesh w/ the lagoon + grased area to the south.

Note: ~~A backhoe and~~ A ton truck was on-site today to pull both Dozers from Lagoon #3 - the cost was \$90.00.

1400: OSC Ranke off-site.

1445: TAT calls OSC Beck + briefs him on site activities. He felt that a smaller wide track dozer would be more suitable for work on Lagoon 3. He also requested the RM to investigate costs + availability of a drag crane (line). He agreed with our movement to begin shoring up the sides + suggested that we begin receiving clay. TAT relayed information to RM) Clay will begin arriving tomorrow late morning. All three sides except for the NE corner of lagoon 1+2 will be prepped for clay.

1530: TAT suggested to RM that he have his crew attempt to square off East side of lagoon & + the NE corner a little more.

1600: Operator using the D-4 dozer attempted to move the dirt from the NE corner. Having cut less than ten feet into the bank, the operator exposed a seepage area of water. Operator covered this back-up. RM + TAT agreed that the cut in this corner couldn't be moved.

1645: EMC notified us that they will bring no more loads today. Maple Grove said they will try to bring one more load. TAT pointed out to RM that EMC loads seem to be substantially larger than Maple Grove loads. RM agreed.

1720: Security on-site.

1730: Crew off-site Ann Patchett

June 4, 1958 Saturday weather: clear skies, cool, temperature in low 70's

0700: crew/TAT on-site. Site safety meeting: continue filling water hole south of Lagoon #3 complete preparation of sides for clay

0715: First trucks begin to arrive

RM reported to TAT that there was a lot of shale in the loads of fill. He (the RM) is going try to get a hold of the boss to see if we can't get more fill like material

1330: OSC directed EM to discontinue fill delivery.

Approximately, 25 piles of fill are stock piled.

Approximately, 161,20 tons of fill were delivered today.

1430: work progressing as planned.

1530: PCS + Tech put on stand by. work progressing well, but D-4 dozer continues to overheat — It seems to run well for 2 hours + then needs a rest. Crew sprays water on it to cool it off.

1600: TAT off - site.

1730: crew + OSC off - site - Ann Patchett —

June 5, 1985 Sunday. Weather: Sunny, clear skies. Temp expected to be in lower 80's no rain expected.

0650: TAT on - site - OSC arrives on - site —

0655: Crew on - site.

0700: Site Safety <sup>PM</sup> Meeting: Continue with work from yesterday; don't get stuck; watch out for heavy equipment

0800: TAT air monitored w/ Hnn. 10.2 ex probe 64 unit calibration gas. Unit calibrated at 8.68 spms — background was 0.0 units. All of perimeter was at background except for the NE downwind corner which measured 0.2 to 0.4 units.

14  
June 6, 1988 Monday

Weather - sunny clear high expected near 90.

0700 Safety meeting - emphasized proper PPE for operators.

Clay to start arriving this morning. Will have the east and north sides cleaned up for clay to be dropped. Expect 15-20 loads needed.

0830 first truck hauling clay arrives at site. Company will only have 3 trucks running today. Informed drivers that we want 15-20 loads of clay. Clay is dry due dry spring this year. May have to wet material down to get it to pack good. D-4 working on staging area flattening off top and cleaning up edges. While other dozer continues work on south portion of site. D-4 will continue work on staging area including packing sides.

TAT dropping off samples at A+B lab will be returning to site ASAP.

1115: TAT arrives on-site. 11 PCB soil samples were delivered to A+B Lab. TAT calibrated Hmu used a 800 10.2 cm probe with 64 unit calibration unit calibrated at 3.4 units. Readings around perimeter ranged from 0.2 to 1 unit. At the SE corner reading was 2.6 units.

1130: D-4 Dozer continues to have problems overheating. Hydraulic fuel began leaking, but was repaired by 1200 Hours.

1200: 55's reviewed + recorded

1400<sup>AP</sup> 1315: Fuel (Diesel) delivered on-site

1405: OSC Buck off-site. OSC Series not on

June 7, 1988 Tuesday

Weather: Sunny - clear high expected to be 92-96° F.

0700: Site Safety meeting: Emphasis on PPE for operators particularly when the end of the dozers get stuck.

Gloves need to be worn when handling the cable. Continue w/ restoration work.. Will try to complete flattening Lagoon #3 mound + begin spreading clay on Lagoons 1+2.

0830: TAT calibrated thru Actual Reading was 8.4 span ~~exp~~

9.8 span @ 54 units on the 10.2 cm probe (as calibrated to benzene). changed span to 8.4 units as calibrated to benzene.

The north, south + west side of site were at background background north of trailer was 0.2 units as calibrated to benzene. The east side of the site ranged from 0.6 to 2.0 units. The D-4 dozer continues to square off the staging area. The D-6 dozer continues to flatten the mound over

Lagoon 3. TAT performed a cost analysis to date - as of 6-10-88 approximately

\$12,000.00 should be left. This means 30 more loads of clay could be delivered leaving \$10,000.00 cushion. This information will be given to both OSC Bulk + Sims.

1130: The DL3E - Dozer got stuck in Lagoon #3. The operators dug the Dozer out by hand + then used the D-4 Dozer to pull it out.

1200-1230: Lunch.

1000: OSC Sims on-site.

1400: Work continues. DL3E Dozer has spread out much of the east side of lagoon #3. There is a S shape mound in the center of the site which is very soft. Operator is spreading this material out slowly & has now turned to the west side to allow the east side to dry out —

1415: OSC Sims signs paperwork. He authorized additional work hours for today and for tomorrow. Crew will leave site from 1700 - 1900 hours for a break. Crew (RM - Operators) will return for 1900 to 2100 hours — OSC Sims also authorized the Tech to come in early on Friday 6/10/88 and work late on Thursday 6/9/88. Sims also recommends longer hours for the rest of the week. —

John Bohrman PCS Manager from MAECO arrived on-site.

1530: Bohrman, PCS + Tech off-site —

1600: DL Dozer operator moved to Lagoon 1 + 2 staging area to allow sludge in lagoon #3 dry. —

1700: OSC Sims off-site. Crew begins to clean. Security on-site. —

1710: Crew + TAT off-site —

1900: Crew + TAT on-site from dinner —

2100: Crew comes off-site. Both dozers worked on top of lagoon 1+2. Crew was attempting to level the east & west sides. TAT suggested that operators simply begin to clear off top. Push excess dirt over sides to increase slope. clean-up mound & prepare for clay

2110 everyone off-site. Security on-site from Patchah.

Note: TAT air monitored. Background was 0.2 units as calibrated to benzene on a 10.2 ev probe; span 8.12 North, west + south end read at background. East end had readings which ranged from 0.6 to 2.0 units.

1155: Crew takes break. Morning air ap ab

June 8, 1988 wednesday.

0645: TAT arrives on-site. Security doing rounds —

Weather: Cooler high in lower 70's; low upper 50's.

Partly cloudy. No rain expected.

0655: Crew on-site. Site Safety meeting. D-4 Dozer to begin placing clay on-sides. D-6 Dozer to complete shoring up of sides.

0735: D-6 Dozer is pushing dirt onto slopes to get the proper angle. D-4 dozer is spreading clay on the East side of the staging area.

0930: TAT called OSC Burk to discuss the following issues:

- No charge for computer
- Round crew hours to the nearest quarter hour
- Trucks cannot go onto lagoon 3 to drop clay for South end of staging area
- Crew can work up until 200 hours with only a ½ hour dinner break.
- 15 bags of clay is OK if needed.

TAT reported to OSC that RM is anticipating a 1200 hour demob on 6/10/88 and that no receipts have been signed.

Clay has been spread in both the North & East ends of the staging area. D-6 is preparing min-dig area of the west end of the site. Tech is preparing to spray water on spread clay.

SS's have been submitted & reviewed. all data

Paperwork complete as far as possible.

1115: Morning air monitoring will not be performed

Since crew is not moving any sludge. They are spreading clay & squaring off Staging area, and prepping drainage area.

1200: All four sides ~~top~~ of Staging area are squared off. D-4 dozer is back blading top of Staging area. D-6 dozer is working Drainage area.

1415: D-4 Dozer completed back blading surface of Staging area & has begun to remove soil. D-6 Dozer continues to smooth out Lagoon #3.

1500: 1<sup>st</sup> load of clay arrives on-site. 15 loads ordered.

1545: OSC Bulk on-site.

1615: TAT calibrates Hm & prepares to monitor T0.2 ev probe span 8.14. Background was 0.2 units - all readings around site were at background.

1715: Clay has been placed on all four sides of lagoon 1 & 2 Staging area.

1730: Pcs + Tech on-site.

1820: Operators opted not to take a dinner break & will work straight through to end of day.

1930: Paperwork signed and complete for day.

1945: Staging area is complete. Majority of excess gravel has been spread along the east side of staging area.

2000: Security on-site.

OSC authorized crew to work to 2030 —

2025: crew ~~off-site~~ decons

2030: Security <sup>on</sup> site; Everyone off-site  
Ann Gatehouse

June 9, 1955

weather clear skies, cool, high temp. expected to be in the upper 60's.

0700: Site Safety Meeting: Check oil on generator.

wear <sup>outfit</sup> gloves when moving materials + cable.

operators need to watch cutting, MO machine

wear respirator. Operators should change dust filters frequently. Begins to decom

equipment. People doing the decom should wear rain suits + be taped.

Roadway needs to backap back bladed + mixed + covered with fill + topsoil. Drainage ditch needs to be cut.

0745: D-6 Dozer is grading lagoon #3 area +

D-4 Dozer is grading road area.

0910: SS's have been submitted + reviewed. TAT packed remaining samples, labeled boxes and

Tech buried samples in North east corner of site. A list of buried samples is in soil sample log. D-4 Dozer continues to work on road area. D-6 Dozer is using a steel rafter to smooth out surface of soil.

1030: TAT calibrates 1 hour 7.9 span on 10.2 in probe.

1045: 1<sup>st</sup> loads of topsoil arrive on-site. 10 to 15 loads expected.

All air monitoring readings including background read 0.0 units except for the SSW end of the site which measured 1.0 units. This corner is downwind of the site.

1215: TAT + PCS took inventory of 2-ton + materials (PPE) leaving Site. The original Dispatched was incorrect.

Stapled to the invoice is a conceal list of materials arriving on-site + leaving site.

1345: D-4 Dozer continues to work on lagoon #3. Dozer got stuck again. Operator will not be able to flatten Lagoon #3 completely but will be able to smooth out edges. D-4 Dozer continues to work on pad. Topsoil deliveries are slow + sporadic.

1620: 15 loads of topsoil received.

1730: D-4 has completed spreading topsoil on road areas and has cut the drainage ditch. Operator is now back blading drain. D63E dozer has attempted to smooth out more of soil atop lagoon #3.

Security on-site.

D63E Dozer operator has begun to decom dozer PCS + Tech off-site.

1800: Some activities continue. D-4 dozer is not up having difficulty forming drainage ditch. This however is ~~why~~ one reason D-4 was brought out on-site.

1820: TAT M-Site. Crew continues with same activities like Backhoe.

Note: 1630: Contractor borrowed chain from farmer

across the street: D-6 operator drove over chain + broke 1 of the 2 chains. Contractor will have to replace chain of 6-10-88.

June 10, 1988 FRIDAY

weather: Partly cloudy, cool, high in the upper 60's. Site Safety meeting: Decon equipment, spread grass seed, complete drainage ditch. For Dust protection wear respirator, for decon wear splash suit, respirator, splash shield + be taped, for spreading grass seed booties will be sufficient.

0715: D-4 Dozer begins work on drainage ditch  
D-6 Dozer is being decontaminated. Tech off-site to make calls to intact chain. OSC Burk —  
on-site.

0820: 1<sup>st</sup> & 3 loads of topsoil arrives —  
OSC, TAT, RM spread grass seed around site.

0850: OSC authorized 5 loads in total of Topsoil

0900: TAT calibrated Hmu and air monitored site.

Span 7.90 units 10.2 ev probe. Background north of trailer 0.0 units. all readings on-site were at background. —

0950: SS's received, reviewed and signed. —

1040: Received 5th + last load of Topsoil —

Crew continues to decom D-6 Dozer. As soon as D-4 spreads Topsoil. Decom of D-4 will begin —

1050: Spreading of topsoil area complete.

Tech could not find a  $\frac{1}{2}$  inch chain so he bought links. Farmer didn't like the links so he will be \$65.00 to buy himself a new chain. —

1155: Crew still decommissioning both dozers. Site clean-up continues. —

1200: D-6 Dozer is complete + topped off w/ Diesel. RM is going to top-off 2-ton w/ Diesel. we should almost no diesel left for a rebate. we should also however not receive a gasoline bill for Demolition of 2-ton

1205: operate off-site. —

1225 D-4 Dozer Demolished. awaiting arrival of Transporter. —

1240: Daily paper work complete. —

1330: Both Transportation trucks arrive on-site to demolish D-6 + D-4 Dozers + 1 poly tank. —

1345: MBJ Trucking off-site with 1 polytank and the D-4 Dozer. —

26

1410: PCS + Tech off - site with the second  
poly tank.

Everyone on - site. Ann Datechat

7-26-88

Weather: overcast, foggy temp. approximately 75° very humid. Area has received considerable rain over the past week.

0930 OSC Burk arrives at the Greiners site. Awaiting meeting w/ Lubriyol representative.

OSC reviewed site conditions. Vegetation beginning to grow back around perimeter of site and to a smaller degree on-site. Grass seed seems to have taken in most areas. Very little water on-site in standing pools 2-3 puddles on-site ranging in size of 2'x3' in diameter and about 2" in depth. Still a little finish grading work that could be done on-site. (Bult, no money left) and only cosmetic work. A very slight odor still present.

Site conditions documented on film by OSC.

1030 Lubriyol representative ( ) arrives on-site finally. Went over final work conducted on-site. Asked questions in regard to final site options explained that all EFGA is supposed to be completed. I am not the one who will be putting report together however I will be getting some of the costs for final options.

Explained water & soil samples showed no levels of concern.

OSC requested statement on Lubriyol's position regarding site - did not get an answer.

Explained if Agency knew what they wanted to

do we could help them out a lot easier. Ron stated he would pass that along to Lubenayol.

- Ron stated that he thought the site looked good.

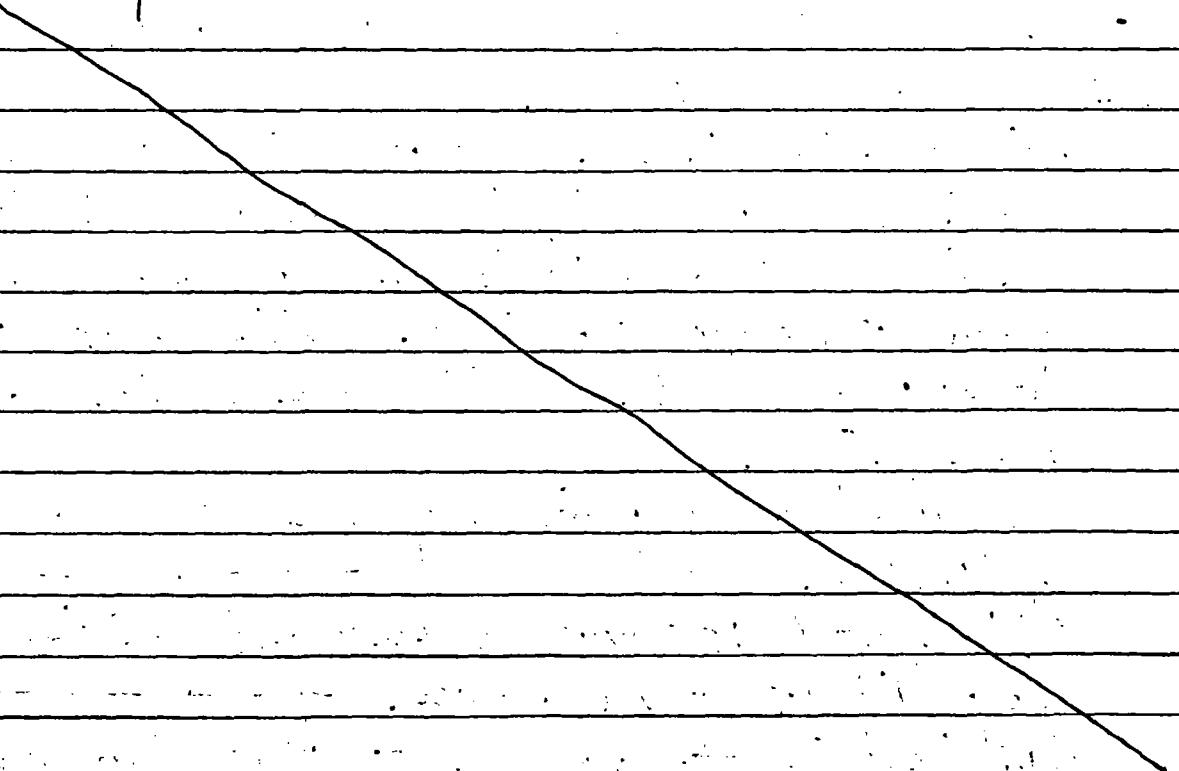
1055 Ron taking video of site. Explained to him the perimeter of site to be honored.

Ron walked complete perimeter of site to take video. Arriving back at starting point at 1130

1145 Lubenayol rep departs site.

- Requested info on sampling conducted at site. Informed him that Lubenayol would have to contact attorney on-site and may have to go through freedom of information request to get what they would like to know at.

1150 OSC departs site.



M

CLIENT/SUBJECT	W.O. NO.		
TASK DESCRIPTION	TASK NO.		
PREPARED BY	DEPT.	DATE	APPROVED BY
MATH CHECK BY	DEPT.	DATE	
METHOD REV. BY	DEPT.	DATE	DEPT. DATE

Onitor meeting	25	5	3
Secured & return	26	6	4
Clean lagoon 4	27	7	3
Setup support gene	28	8	2
Mod+set up tmt area	29	9	1
H2O Tmt	30	10	0
Wkend off/Standby	31	11	9
Clean W. diversion	01	12	8
Consoilate 3*	02	13	7
Hench lagoon 3*	03	14	6
drillers	04	15	5
Stone delivered	05	16	4
decon H2O + tmt	06	17	3
Vac truck on site	07	18	2
Lme delivered	08	19	1
H2O 235#2	09	20	0
H2O 235#1	10	21	9
H2O "D-Q" TWA	11	22	8
H2O D-Q	12	23	7
H2O D-Q	13	24	6
	14	25	5
	15	26	4
	16	27	3
	17	28	2
	18	29	1
	19	30	0

Aug / Sept	Activity log renews lagoon
<ul style="list-style-type: none"> <li>Site preview</li> <li>mobilization trailers</li> <li>clear brush</li> <li>stage hmt area</li> <li>H2O treatment meet.</li> </ul>	<ul style="list-style-type: none"> <li>-</li> <li>-</li> <li>==</li> <li>==</li> <li>-</li> </ul>



SHEET \_\_\_\_\_ of \_\_\_\_\_

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May + June

GRINERS LAGOON

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ADMIN  
SECURITY  
Restoration  
Support zone

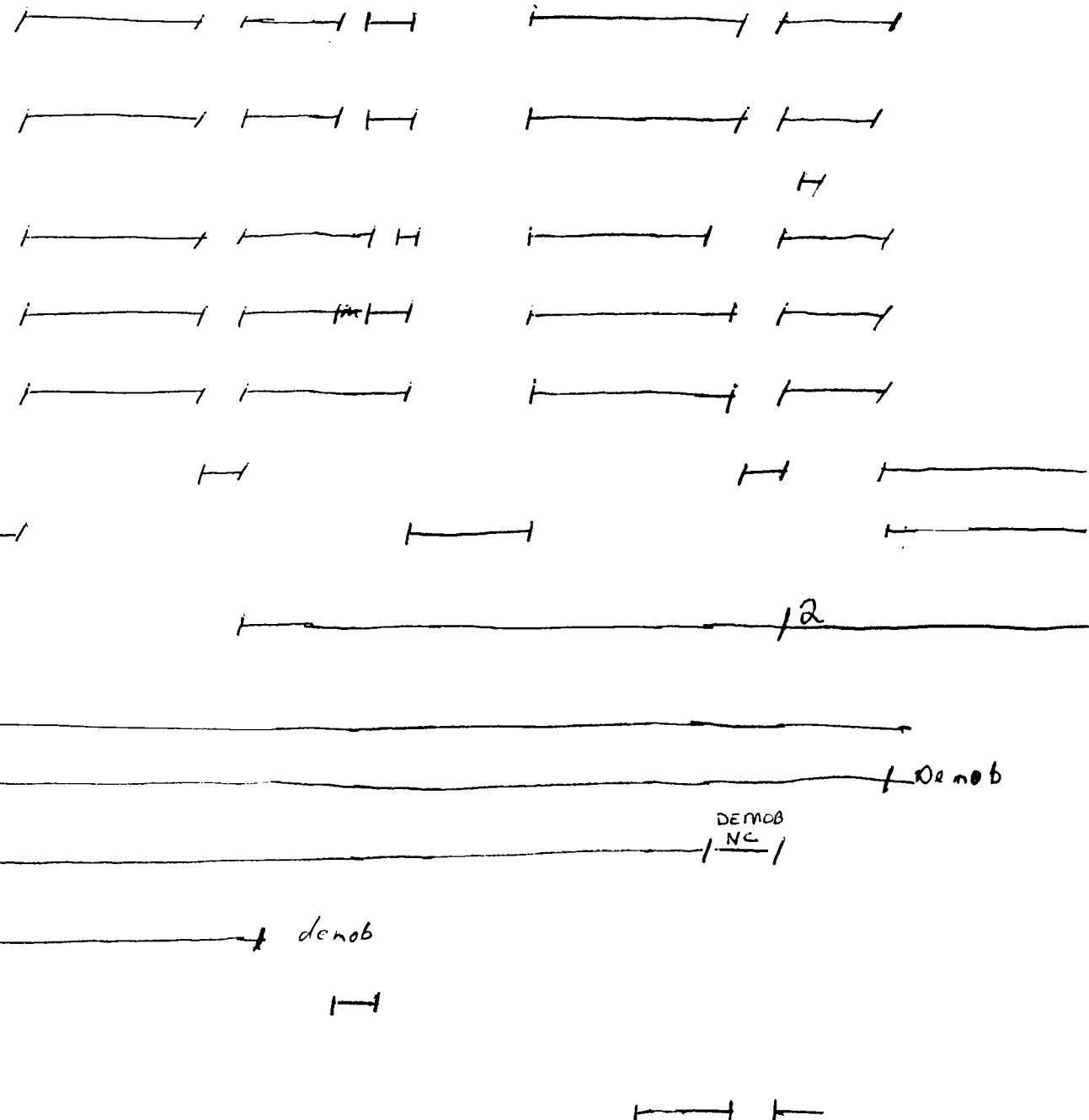


SHEET \_\_\_\_\_ of \_\_\_\_\_

CLIENT/SUBJECT	TASK DESCRIPTION	PREPARED BY	DEPT	DATE	APPROVED BY	W.O. NO.
		MATH CHECK BY	DEPT	DATE		
		METHOD REV. BY	DEPT	DATE		
① Admin+Sec						
② continue soilstaging						
③ bagons 3 solidification						
④ Dozer stuck						
⑤ Level B Trackhoe						
⑥ Level C dozers						
⑦ SB days						
⑧ weekend						
⑨ D-6 wide track (D41P)						
⑩ Trackhoe Loraine						
⑪ Trackhoe Kamatsu						
⑫ Dozers Kamatsu						
⑬ Dozer Cat-8						
⑭ Kamatsu hole stuck - shutdown						
⑮ Trenor +						

NOV

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CLIENT/SUBJECT	W.O. NO.	TASK NO.	
TASK DESCRIPTION	DEPT	DATE	APPROVED
① Admin + Sec			—
② Continue soil staging			—
③ 0-6 wide Track			—
④ Track hoe Lorain			—
⑤ Dozer			—

D : -

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CLIENT/SUBJECT \_\_\_\_\_ W.O. NO. \_\_\_\_\_

TASK DESCRIPTION \_\_\_\_\_ TASK NO. \_\_\_\_\_

PREPARED BY _____	DEPT _____	DATE _____	APPROVED BY _____
MATH CHECK BY _____	DEPT _____	DATE _____	
METHOD REV. BY _____	DEPT _____	DATE _____	DEPT _____ DATE _____

Greener's Lagoon. April 12, 1988  
Weather: 50s, sunny, slight breeze.

- 1045 TAT Allen arrives, water has puddled in low lying area. Blue tarp has come off of bags of sand from water treatment site.  
- Several tires are on the fill on the NE corner of the mound. Not sure if they were there last winter.
- 1110 Ron Schrack, Env + consultant to PEP Lubrigol arrives. He asks future plans: short term is to complete closure when OSC Burk completes another site. Long term plans still under consideration. R. Schrack has video camera and requests TAT to stay out of audio range while he is touring perimeter.  
- While Schrack goes along the western side through the woods, TAT observes him from the Northern Drive.

#### Site conditions:

- water around southern end of mound. Water ponded in places on eastern and western edges. Not much water on the north side.
- Steel frame on of the tanks now sitting on the mound on the northern side. There are tracks from dirt bikes around this.
- Along the eastern side (working north to south), there is some water ponded, but not excessive. Algae has grown in the water so it is various colors.
- The ladder is now leaning across a very muddy area and has been used as a bridge back up onto the mound. Foot prints are obvious.
- Dirt bike tracks can also be seen in this

CLIENT/SUBJECT \_\_\_\_\_ W.O. NO. \_\_\_\_\_

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PREPARED BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED BY

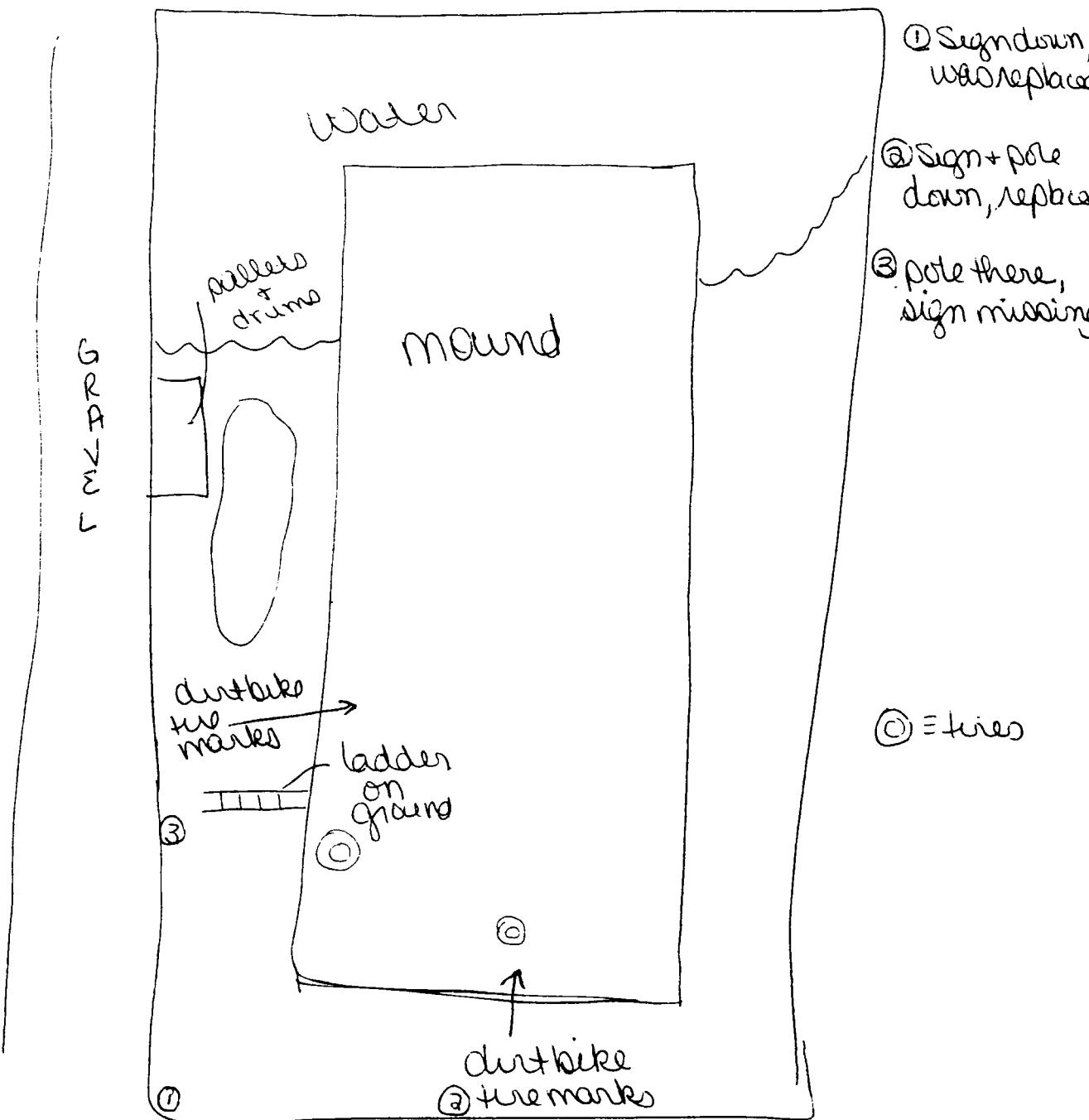
MATH CHECK BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

METHOD REV. BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

Lagoon 4

↓ N





SHEET \_\_\_\_ of \_\_\_\_

CLIENT/SUBJECT \_\_\_\_\_ W.O. NO. \_\_\_\_\_

TASK DESCRIPTION \_\_\_\_\_ TASK NO. \_\_\_\_\_

PREPARED BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

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MATH CHECK BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

METHOD REV. BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

DEPT \_\_\_\_\_ DATE \_\_\_\_\_

area.

- The bags of sand from water treatment have come unloosened.

- I did not see any signs of beer cans or other teenage partying debris.

1220 BOTH TMT alleys & E. Schrack depart site. —

E Allen

NOTE Two warning signs were replaced on their fence posts. Those two signs were the only ones found. One empty post was also found.

OH - 523

1

August 31, 1987 -

Kurt R. McAllister

Forman - Technical Services

2.

8-31-87

3

05:00 Mobilize from Glenwood for  
Freemont, Ohio.

11:00 Arrive site.  
Meet with R.M., O.S.C., T.A.T.

13:30 Truck with Treatment  
equipment arrives.  
Set-up of treatment  
system begins.

Crew:  
Dave Estep  
Kurt McAllister  
Bill Washik  
Dale Strickland

Crane arrives on site to  
unload equipment.

16:00 Calgon arrives to load  
and charge carbon cell.  
Electricians on site to  
wire system.

17:30 Depart site.

4

9-1-87

07:00

5

Arrive at site.

Safety Meeting.

Continue to set-up systems.

6

9-2-87

07:00

7

Arrive at site.  
Safety meeting.  
Continue to setup  
system.

8

9-3-87

9

10

9-9-87

07:00

11

Arrive at site.

Safety meeting.

1.) Levels of protection.

Poly suits for chemicals.

Truck for regular treatment.

07:30

Commence final preparations  
for treatment.

1.) Hold discharge hose the  
length of site to corner.

2.) Set 2" pump in reactor  
for mixing.

3.) Set suction for 3"  
trash pump. Tied off suction  
hose.

4.) Get pH paper.

10:00

Break

Ready to start H<sub>2</sub>O treatment.

12

9/10/87

07:00

07:30

THURS.

13

Safety meeting.

- 1.) Levels of protection.
- 2.) Personal assignments.

System running smoothly.

pH

reactor 10.5

clarifier 10.5

before Sand 6.5

Discharge 3.5

Flow 37 gpm

(falling slowly through night.)

Began increasing flow

50 gpm average.

(Need larger acid feed pump to increase flow past 50 gpm)

Adjusted pH to new flow.

Fueled and serviced  
trash pump.

14

09:45 System running smoothly.

Flow ~ 50 gpm

pH 10.5-11.0 reactor

10.5-11.0 clarifier

6.0 before filter

7.0 discharge

Discharge still has red tint to color.

14:00

11:30 System running smoothly.

Flow ~ 70 gpm

pH 10.5 reactor

10.5 clarifier

6.0 before filters

7.0 discharge

Red tint to discharge

Erecting lights for night crew.

Box placed over electrical Board.

New acid feed pump arrived.

Do not need it yet. May use new pump to help lower pH if we raise reactor pH to 12 for better flocculation.

15

System running smoothly.

Flow ~ 70 gpm

pH reactor 10.5

clarifier 10.5

before filters 6.5

discharge 7.0

Carl Earl went to site.

Very hot & humid weather.

R. fuel 3" trash pump

Now have 3" pump for back up.

16:00

System running smoothly.

Flow same ~ 70 gpm

pH

reactor 10.5-11.0

clarifier 10.5

before filters 7.0

discharge 7.5

Some free board on lagoon  
noticeable (inches)

16

18:45 Night crew arrives.  
Foreman & TAT give safety meeting.

- 1.) Hospital Routes
- 2.) Lightning
- 3.) System update

19:15 Depart site.

9/11/87

06:45

Arrive site.

Safety meeting.

1.) Chemicals

2.) Weather

3.) Job assignments

07:00

System running smoothly.

Flow ~ 70 gpm

pH

reactor 10.5-11.0

clarifier 10.5-11.0

before filters 6.5

discharge 7.0

07:30

System running smoothly.

Flow ~ 70 gpm

pH reactor 10.5-11.0

clarifier 10.5-11.0

before filter 7.0

discharge 7.5

Getting a 3 prong pigtail  
to run both acid  
feed pumps.

Then run pH reactor  
at 11.0 - 11.5 for better  
flotation.

17

18

with both acid feed pumps  
we can run pH 6.0  
before filters.

18:10 Slowed system down some.  
Was averaging 80-100 gpm  
too fast.

3" submersible pump running  
continuously.

However after slowing down  
pump "kickson & off"  
pH

reactor 11.0 (bottom)  
clarifier 11.0  
before filters 6.5-7.0  
discharge 7.0-7.5

May have to backwash  
sand filter tomorrow 9/14/87  
A little pressure begining to  
show on gauge.

9/12/87

19

06:50 Arrived at site.  
Safety meeting.

1.) Check pumps and  
get system back to normal.  
(Night crew had trash pump  
problems. However they  
resolved most problems.)

07:00 Dale informed me that  
the trash pump was  
working again and system  
was running smoothly.  
However flow was slow.  
We increased flow to  
65-70 gpm and adjusted pH.

11:00 System running smoothly.  
Changed Acid drum and  
Caustic drums.

5 Caustic drums remain.  
3 Acid drums remain.  
Night crew replaced  
acid feed pump because  
flow control screw is broken.  
Caustic feed pump plate  
over diaphragm is showing  
signs of wear.

20

Flow 65-70 gpm  
 pH  
 reactor 11.0  
 clarifier 11.0  
 before filters 6.0  
 discharge 7.0

14:00 Lunch

System running smoothly.  
 Flow ~ 60-70 gpm

pH  
 reactor 11.0  
 clarifier 11.0  
 before filters 6.0  
 discharge 7.0

Setting up gas powered  
 diaphragm pump to remove  
 floc sludge from top of  
 clarifier. Will return sludge  
 to lagoon.

Refuel trash pump.

Refuel generator.

21

15:30

Shut down because of  
 lightning storm.  
 $\frac{1}{4}$  of floc removal  
 completed.

2" gas powered diaphragm  
 pump, after primed removed  
 floc sludge, but with  
 difficulty.

18:30

System running smoothly.  
 after startup at 16:30  
 Floating floc removal  
 completed.

Noticed some floc  
 carry-over (could be floc  
 sludge build up on bottom)  
 Will send for "Sludge-Off"  
 Flow ~ 60-65 gpm

pH  
 reactor 11.0  
 clarifier 11.0  
 before filters 6.0  
 discharge 7.0

22

9-13-87

23

06:45 Arrive site.

Safety meeting:

- 1.) ~~Site~~ Polysite
- 2.) Mud - slick
- 3.) Job assignments

07:00

Informed by night crew  
that sand filter needs  
back-wash. Flow down below  
50 gpm.

Also, having problems with  
3" sub. pump in poly sump.

Setting up for back wash.  
Placed 3" sub. pump in 200 gal.  
poly tank.

09:15

Back wash complete.  
3" sub. pump in poly sump  
cured. (H<sub>2</sub> float switch  
cord was too short, lengthened  
cord and pump runs fine now)

Increasing flow to reach  
65 gpm  
adjusting pH to flow

24

13:30

System running smoothly.  
Flow ~ 60 - 65 gpm  
pH

reactor 11.0  
clarifier 11.0  
before filters 6.0  
discharge 6.5 - 7.0

Changed caustic drums.

Refueled 3" trash pump.

Still some carry-over of  
floc in clarifier.

15:30

System running smoothly.  
Flow ~ 65 gpm  
pH

reactor 11.0  
clarifier 11.0  
before filters 6.5 - 7.0  
discharge 7.0

Some carry-over of floc  
in clarifier.

25

17:30

System running smoothly.  
Flow ~ 60 - 65 gpm  
pH

reactor 11.0  
clarifier 11.0  
before filters 6.0  
discharge 7.0

More floc carry-over  
in clarifier.

Refuel 3" trash pump.

Refueled & serviced generator.

18:45

System running smoothly.  
Flow ~ 65 gpm

Myself & TAT gave  
safety meeting for night crew.  
Discussed system & pump  
problems & leaves from night  
before.

26

9/14/67

22

06:45

Arrive site.

Safety meeting:

- 1.) Pick up site.
- 2.) Job assignments.

07:00

Informed by night crew  
that system ran smoothly  
most of night. Some  
problems with 3" sub  
pump Hg float switch not  
working properly at times.  
Flow slowed to 39 gpm  
at one point in evening.  
Put back up to ~65 gpm

pH:

reactor 11.0  
clarifier 11.0  
before filters 6.0  
discharge 6.5 - 7.0

10:30

System running smoothly  
Flow ~ 65 gpm  
pH

reactor 11.0  
clarifier 11.0  
before filters 6.0  
discharge 7.0

28

Not much floc carry-over today.

13:30

System running smoothly.  
Flow ~ 60 gpm  
pH:

reactor 11.0

clarifier 11.0

before filters 6.5

discharge 6.5-7.0

More floc carry-over detectable.

Fuel truck arrived.

Refueled generator, 3" trash pump.

16:25

3" sub pump not keeping up with rest of system.

Shut down to drain sump to retrieve flashlight dropped in by night crew. (Thought this was problem.) When we re-positioned pump we discovered pump(s) had been plugging hole in sump.

Sent runner for new sump.

29

Positioned new sump.  
3" Trash pump would not start.

Cleaned spark plugs.  
Sent runner for more spark plugs.

Tried back up 3"  
Trash pump. Would not start up after took prime.

Tried original 3" trash pump. Works fine. Must have flooded out.

System running smoothly.

Flow ~ 60 gpm

pH:

reactor 11.0

clarifier 11.0

before filters 6.5

discharge 7.0

Safety meeting for night crew.

18:10

18:45

30

9/15/87

06:45

Arrive site.

Safety meeting:

1.) Thunderstorms

2.) Mud

3.) Job assignments

07:00

Shift change.

Night crew informed me  
that flow is down because  
sand filter is clogging.

07:15

Back wash sand filter

08:30

Start-up system again.

Flow ~ 50 gpm

pH

reactor 11.0

clarifier 11.0

before filters 6.0

discharge 7.0

Sand filter still needs  
another backwash and/or  
scrapping.

31

32

2' of free board on lagoon.  
Debris can be seen sticking up from bottom.

Need to move suction hose to deeper water. Suction beginning to form a whirlpool and sucking some oil from top of water.

11:15 Shut down system because of lightning.

11:30 Caustic and acid shipment arrived.

14:30 System running smoothly.  
Flow ~ 60 gpm  
Caustic and acid has been staged.

pH reactor 11.0

clarifier 11.0

before filters 6.0

discharge 7.0

33

~~8:30~~ More carry over of floc in clarifier.

Have moved suction hose of 3" trash pump to deeper water.

Oil on water has ~~been~~ collected in far corner of lagoon.

When reactor gets a lower volume of water more carry over of floc occurs. Probably because reactor is collecting most of floc.

Still a ~~little~~ light rain falling.

Checked clarifier with sludge judge.

4" of floc throughout clarifier.

Employed 2" diaphragm pump to remove floc sludge. Working well.

Trouble to prime pump

34

9/14/87

18:30	Most floc sludge removed, and pumped back to lagoon.	06:45
18:45	Give safety meeting to night crew. (Rain, lightning)	07:00
19:00	Enter site with night crew to demonstrate back wash procedure.	
19:15	Depart site.	

35

08:30

'Arrive site.  
Safety meeting:  
 1.) Rain, Mud  
 2.) Job assignments  
 Informed by night crew  
 that they backwashed  
 sand filter ~ 21:00 and  
 system has run smoothly  
 since. System can 100 gpm  
 but TAT informed them to  
 slow to 20 gpm for  
 retention time.

pH

reactor 8.0

Changed caustic drum

Changed acid drum

Could not get caustic feed  
 pump to prime. Dismantled  
 pump (ball was stuck on top  
 and bottom)

Stopped treatment system.

Repaired pump.

System running again.

09:00

38

9/10/87

39

40

9/19/87

EDT 08:00

COT 10:35

41

Depart Fremont, Ohio

Arrive Glenwood, Ill.

42

9/20/87

43

OFF

44

9/21/57

45

OFF

46

9/22/83

04:45

05:15

01:00

12:00

12:30

13:00

14:00

Arrive Glenwood:

Depart Glenwood:

Arrive Fremont, Ohio

Arrive site.

Safety meeting:

1.) Job assignments.

Placing trash pump and  
suction hose for system.Checking all pumps and  
valves in system.

Start up system.

System running smoothly.

Flow ~ 60 gpm

pH

Reactor 11.0

Clarifier 11.0

Before filters 6.0

Discharge 7.0

48

9/23/87

49

17:00

System running smoothly.

06:45

Flow ~ 60 gpm

pH

Reactor 11.0 - 11.5

Clarifier 11.0 - 11.5

Before Filters 6.5

Discharge 7.0

Discharge is brown - from red.

Replaced absorbent boom  
in sump in lagoon.

Old boom is oil coated.

Laid down absorbent pads  
in sump in lagoon.

18:30

Safety meeting for night crew.

1.) Sludge in lagoon is  
deep and soupy.

2.) Watch system closely.

10:00

Arrive site:

Safety meeting:

1.) Sludge in lagoon(6'')

2.) Job assignments.

System running smoothly.

Flow ~ 60 gpm

up from night (45 gpm)

pH

Reactor 11.0

Clarifier 11.0

Before filters 6.5

Discharge 7.0

Oil has seeped under

boom in sump in lagoon.

Replaced pads in sump.

Sump still 7'-8' deep

Discharge water is still  
brown.

14:00

System running smoothly.

Flow ~ 60 gpm

pH

Reactor 11.0

Clarifier 11.0

Before filters 6.5

Discharge 6.5 - 7.0

50

9/24/87

Watching system closely, so  
as not to suck oil or sludge.

06:45

16:45

System running smoothly

Flow ~ 60-65 ppm

pH

Reactor 11.0

Clarifier 11.0

Before filters 6.5 - 7.0

Discharge 7.0

07:00

08:00

Will have night crew w/pump  
floc sludge from bottom of  
clarifier.

- ② Clean up caustic feed pump.
- ③ Change oil in 3" trash pump.
- ④ Back wash sand filter?
- ⑤ Clean decon & break trailers.
- ⑥ De-con Robars (Good).

18:20

Shut down system for  
night.

Safety meeting for night crew.

10:00

51

Arrive site.

Safety meeting:

1.) Safety on berms.

2.) Job assignments.

Set up system

Start up system

OSC wants system run

Slower to see if discharge  
will clear up. (30 ppm)

System running smoothly.

Still adjusting pH  
to slower flow rate.

pH

Reactor 11.0

Clarifier 10.5 - 11.0

Before filters 6.5

Discharge 7.0

OSC wants to back flush  
sand filter. (Doesn't like smell  
of effluent)

Shut-down system.

Back wash sand filter.

Backwash is very dirty.

10:45 Start up system

When priming trash pump notice  
that 'ump' in lagoon is filling  
with sludge from where  
equipment is filling in lagoon  
from far side.

Water (influent) is very dark  
and full of solids)

11:05 Shut down system.

Informed Carl + OSC of  
situation.

Operator will re-dig sump.

36

Flow ~ 65 gpm  
pH reactor 11.0  
clarifier 10.5  
before filters 6.0  
discharge 7.0

14:00

System running smoothly.

Flow ~ 65-70 gpm  
pH

reactor 11.0

clarifier 11.0

before filters 6.0

discharge 6.5 - 7.0

Some floc carry-over.

Began floc sludge removal  
from clarifier with 2"

diaphragm pump at 14:30.

Will continue.

Beginning to rain again.

37

GRINERS LAGOON  
WATER TREATMENT

- Dale Strickland MAE CORP  
Glenwood off.

Response Mtn	- Carl Ivaland
EPA	- Ed Burke
TAT	- Bruce Parker
TAT	- Elsie

	1800	9-9-87
		Fri - had safety meeting - working w/ <del>test</del> tank
		- working w/ Kurt McAllister and Bill Washick Night Shift
		- got informed as to set up / how to work lights etc pumps and so forth
		we are still working to get pH down in clarifying and carbon & sand tanks, working for 10 1/2 pH in poly tank down to 6 1/2 - 7 in effluent
		- problem w/ acid pump not pushing enough acid so treatment gal/min is slow - hope to have better pump tomorrow
	2030	- 1 <sup>st</sup> break (Ent Hot zone)
	2043	- back to West zone

TAT - Bruce Baker

2400 -

- Got water treatment
- pH 5 going satisfactorily
- into poly tank reactor at pH 7 - leave at 10 $\frac{1}{2}$ -11 pH
- into clarifying tank at 10 $\frac{1}{2}$ -11 pH some solids settle out top layer of liquid shimmered into trough and lowered the pH 6 $\frac{1}{2}$ ->
- into ~~carbon~~ black sand tank at 6 $\frac{1}{2}$ -> → to carbon tank → the 7 $\frac{1}{2}$ -8 pH
- out to drainage
- exit Hot zone (lunch)

0030 -

Enter Hot zone -  
continue treat ment as above

- going smoothly
- working w/ Bill Washburn  
only now but has gone (~~the two of us~~)?

0400

Exit Hot zone (break)

0430

- Enter Hot zone
- everything going good

5

(Travel Time  
9-8-81      5 hr travel  
on site at 1200 hrs)

Hours 1800 - 0730 = 28.0 hrs reg  
5.5 hrs OT

0730

- generator pump starts a few times - I think it needs some oil  
pH is staying at good levels which is good because pH paper is low  
→ pH is down to 7 in effluent

→ exit hot zone and sign out of site

1700

9-10-87

- sign into site and have safety meeting
- Elise thinks things are going well
- treatment flow is up to 70-75 gpm
- pH's staying in prescribed zones
- working w/ Bill Wishick  
Bruce Baker TAT

1730

Sign into Hot zone

check pH's and see immediately that day crew ~~that~~ has let acid down run dry so pH going into sand tank is about 10

- pH coming out of sand tank is about 10 also no ~~down~~ down must have been dry for some time
- Bill and I change down immediately and bring pH going into sand tank down to about 6

a

- pH effluent is slowly  
coming down also

- treatment running  
smoothly otherwise

- Exit hot zone (break)

- Enter hot zone

- treatment going along  
smoothly

- effluent pH is back to  
seven - will try to keep  
it there

- ~~more stuff~~

- trying to fight total  
~~bordetella but still stuck~~

~~in a living bottle~~

~~to better than having  
problems~~

Exit hot zone (lunch break)

(finally got the ~~existing chance~~  
~~to go up to hospital~~)  
~~to more excitement~~

0045

Enter hot zone

pH in tank going into  
sand ~~so~~ was up to  
9 - adjusted it back to

pH of  
 sand tank effluent and  
 carbon tank effluent both  
 at steady pH  
 - treatment going smoothly

0320

0340

Exit hot zone (break)

Enter hot zone

- treatment running good
- problem w/ trash pump  
~~shutting down~~  
 (may be oil or overheating)

HLS 19.00 - 0730 - 8.0 hrs reg  
 4.80 hrs OT

0715

pH's

10 1/2 - 11 out of reactor

6 1/2 - 7 out of clarifier

6 1/2 - 7 out of sand

7 out of carbon (effluent)

Exit hot zone and sign  
 out of site

13

9-11-87

1900

Sign into site

Safety meeting

- treatment going well
- changed trash pump because it kept dying  
don't know what was wrong

2115

Enter hot zone (1<sup>st</sup> break)

~~metals that we only have~~  
~~left~~  
~~go to splash unit~~

2140

Enter Hot zone

- New trash pump runs too fast - shut it off so as to let the level in the poly tank lower and then started up again

- opened valve from poly tank to clarifier and a little  
the results were terrible  
- water output into the acid though ~~open~~ up so much  
that pH level went up to about 9

- returned to valve to its prior setting and pH went back to 7 pH
- decided to fill poly tank to a little less than  $\frac{3}{4}$  full and then let it get pumped down to about  $\frac{2}{3}$  full while trash pump is shut off because the new trash pump will not run at a low enough pace for there to be an equilibrium
- pH levels in poly tank may fluctuate but they should remain constant in the clarifying tank
- Bill may try ~~removing~~ spa exchanging spack plug during shut down to see if we can get 1<sup>st</sup> trash pump running again

ODIS

exit hot zone (lunch break)

0050

Enter hot zone

- 2nd trash pump

has gone down also

(Bill cleans spark plug and on  
1st trash pump and)

\* System is shut down

- shut down for approx

15 min

- all plugs are pulled

(2 swags pumps and acid  
and caustic pump are  
shut down)

- effluent valve on  
carbon tank is closed

- We hook up 1<sup>st</sup> trash pump  
again and system is back  
in operation

- 1<sup>st</sup> trash pump seems to  
be running well for a  
little while

- "trash pump starts acting  
up again"

- acid pump is changed because  
control screw is broken

0330

- 1<sup>st</sup> trash pump is acting  
up really bad again  
and seems to be getting  
worse - keeps stalling  
out again and again

- all we can do is  
babysit and hope it  
keeps going

- pH's are still ~~still~~ within  
prescribed limits

Exit hot zone (break)

- Bill added oil to 1<sup>st</sup>  
trash pump and the  
problem calmed up

- ran tube clockwise

- pH's stable and  
at prescribed settings

Poly tank - 11

clarifier - 11

swag tank - 6 1/2

Carbon - 7

①  
19

0730 Exit hot zone  
- sign out of site

HRS 1900 - 0730 8.0 neg  
4.8 OC

2

1900

9-12-87

Sign into site

- Safety meeting

~~fall~~

watch out for mud  
mud - things slippery  
careful by loggers  
and on ladder

- system running  
well

- pH's stable at prescribed  
levels

- third man on treatment  
crew - Cliff

- rotating shifts 2 men  
in hot zone - one man  
out

each person in hot zone  
for 2 hour shift - one  
hour out

1900

Enter hot zone

system running well

pH's good  
no problems

ADS

23

2000

2100

2200

0000

0200

0300

exit hot zone (break)

Enter hot zone

- system working well
- pump went down once but we added oil and it ran perfectly after that.
- pH's are steady at at prescribed levels

exit hot zone (lunch break)

Enter hot zone

- scraped some of the scum off of the clarifier
- system running well
- pH's at prescribed levels

Exit hot zone (break)

Enter hot zone ~~scum~~

- Sump pump in tank coming from clarifier

2

has been slowing down  
- don't know if its the pump  
or if the sand tank  
needs to be back-washed  
- had to reduce flow rate  
so as to accomodate  
slower pumping  
Exit hot zone (check  
Enter hot zone

- everything running  
well - except sand pump  
- pump at prescribed  
levels

with flow 50 gpm

0730

Sign out

HRS 1900 - 0730  
8 hr reg  
4.5 hr OT

JX

9-13-87

1900

- Sign in site
- Safety meeting
- pump was backwashed during day - might help flow rate?

- treatment running well pH's all within prescribed limits  
flow rate ~ 60 gpm

- all pumps are working but I keeping close watch on mercury switch in sump tank

2100

Exit hot zone (break)

2200

Enter hot zone system running well

- caustic pump goes down - don't know why - it is only pushing air we re-prime it and it is working fine

JA

- system back to normal  
PH's at prescribed levels

Exit hot zone (lunch)

0100

Enter hot zone  
system running well  
until sump pump  
at the end of the  
chamber starts acting  
up again - can't keep  
up with water flow  
so we have to slow  
system down

- trash pump starts sucking  
air when I slow it  
down so we have to  
re-prime it

- system running well  
but at slow pace  
~ 40 gpm

0300

Exit hot zone (break)

31

0400

- enter last zone
- system running well
- pH's within prescribed limits

poly tank ~ 11

amps tank ~ 6½ - 7

sand &amp; carbon ~ 7

flow rate ~ 60 gpm

0400 - 0715

8 hrs 15 min

9.25 OT

0600

exit last zone

- clean up decor
- cooler and trailer
- fill diesel tanks and cans

0700

sign out of site

9-14-81

1900

- Sign into site
- Safety meeting

System running well

2000

Enter Hot zone

- System running well
- pH's all at prescribed levels

2200

Exit hot zone (1<sup>st</sup> break)

2300

Enter Hot zone

- system running well
- pH's all at prescribed levels

- changed caustic soda drum

- increased flow rate slightly

- Exit hot zone (lunch break)

0100

- Enter Hot zone

- increased flow rate caused pH rise because

35

- because the amount of flow was too much for acid pump to bring pH down to 7
- pH in poly tank was a little to high ~12
- lowered pH in poly tank to ~11
- lowered flow rate also ~ 40-45 on gauge

0400

exit hot zone (break)

0500

Enter hot zone

- system running well
- pHs at prescribed levels
- flow rate ~ 40 gpm

0700

exit hot zone  
sign out of site

37

1850

9-15-87

Safety meeting  
Sign into site

- Safety -
- wind
- lightning

1900

Enter Hot zone

- Kurt Wallister
- explains backwashing  
procedures for filter  
tank
- backwash if flow rate  
falls below ~45 gpm
- 

- System running at about  
~50 gpm - falling slowly.

pH's      poly ~ 11.0  
sumptank ~ 7.0  
effluent - 7.0

2000

Exit hot zone (break)

2100

Enter Hot zone

- flow rate has fallen  
to about  $\sim 40-45$  gpm

- decide to backwash  
filter tank

- Shut down system  
and go through  
back wash procedure

\* - back washing done  
in about 45 min

(possible that yellow  
poly tank did not  
have enough water  
in it for thorough  
backwashing?)

- after backwashing system  
running well

- pH is good

- flow rate has increased  
 $\sim 55$  gpm

A)

2300

Exit hot zone (lunch break)

0000

Enter hot zone

pH's poly ~ 11.0

sump ~ 7.0

effluent ~ 7.0

System running well

0200

Exit hot zone (break)

0300

Enter Hot zone

- increase flow rate  
by opening valve  
on pump hose coming  
from poly tank into  
clarifier tank 1/2

- flow rate is increased  
to a gauge reading  
of ~80-90 gpm

- discuss this with  
Bruce (TAT) and  
he says that adjusting  
valve affects retention  
time in clarifier too

ST

43

much and that retention  
time is most important  
part of treatment ~~process~~  
- adjusted valve and therefore  
flow rate drops to ~20gpm  
- will wait and ask Kurt  
about valve adjustments  
(whether effects on retention  
time are too serious)  
~~do not change to~~

0500 Exit hot zone (break)

0600 Enter hot zone  
flow rate still at ~20gpm  
pH's all at prescribed  
levels

0700 Sign out of hot  
zone ? side

43  
45

9-22-87

Sign into site  
Safety meeting

- System working well
- pH's all at prescribed levels
- Watch for sludge if sludge starts coming thru shirt down system for a while let water come back to pit

1850

Enter hot zone  
System running well

2105

Exit hot zone (break)

2200

Enter hot zone C

- system running well
- pH's good

2400 Exit heat zone, (lunch)

0100 Enter hot zone

- system running well
- pH good
- water getting darker  
watching for sludge

0300 Exit hot zone (break)

0400 Enter hot zone

- system running well
- gpm slowed down ~ 45 gpm

- 11.0 - poly
- 6.0 - Emp
- 7.0 - effluent

- water color darkening
- watching for sludge

0600 Exit hot zone

0730 Sign out of site

9-23-87

\$830

Sign into site

Safety meeting

- water treatment

is not running

~~- 1000~~

Bill W &amp; I

are to pump

sludge out of

Clayton - clean

decon line i

change the oil

in the trash pump

\$900

Sign into Hot zone

Start pumping sludge

clean decon and

change oil in

trash pump

2010

Exit hot zone

Bill fell pathway onto  
clayton so we came  
out for him to

51

dry off and resilt

2030

Enter best zone

- resume pumping  
sludge out of  
clarifier

- pump down about  
3½ feet when we  
notice a small  
hole in the  
effluent line of  
the 2" dia pump

- Sludge judge reads  
about 18 inches  
left in clarifier

- water level down  
~ 3-3½ feet

2240

Exit best zone

S



SHEET 1 of 2

CLIENT/SUBJECT Gallinas Lagoon W.O. NO. \_\_\_\_\_

TASK DESCRIPTION Flow meter Readings TASK NO. \_\_\_\_\_

PREPARED BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_ APPROVED BY \_\_\_\_\_

MATH CHECK BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

METHOD REV. BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

DATE	TIME	READING	GALLONS TREATED	FLOW	Avg Flow / min
9/9	1410	7994770		—	—
	1700	8000660	5290	—	32 gpm
	1840	8001870	7100	—	18 gpm
	1920	8002690	7920	—	20 gpm
	2310	8011530	16760	—	38 gpm
9/10	0130	8018340	23570	50 gpm	49 gpm
	0430	8025060	30290	50 gpm	37 gpm
	0610	8028130	33360	50 gpm	30.7 gpm (35)
(1240 min)	1050	8044050	49280	80 gpm	39.7
(1610 min)	1700	8070010	75240	60 gpm	46.73
	2100	8086300	91530	45 gpm	68.00
9/11	0130	8103870	109100	75 gpm	65.07
	0600	8122260	127490	60 gpm	68
	1810	8131650	136880	70	—
(2460 min)	1030	8141750	146430	70	(68) 55.68
(3060 min)	1710	8168420	173650	—	(56.75) 68
	2320	8185300	190530	50 gpm	45.60
9/12	0320	8195200	200430	—	41.25
	0630	8201600	206830	45 gpm	33.68
	1110	8221390	226620	50	—
(4230 min)	1245	8226110	231340	50	59.7 / 54.7
	1530	8237730	—	—	—
14395 min)	1700	8237730	242960	—	70.4 / 57.44
	1830	8244500	249730	70	75 / 55.68
	2330	8260500	265730	—	66.67
9/13	0230	8271700	276930	—	46.67
	0630	8278600	283830	50 gpm	28.75
	1110	8286880	292110	—	—
	1125	8288080	293310	65	—
(5845 min)	1710	8310770	316000	50	63 / 54.06
	2110	8326400	331630	—	65.13
9/14	0130	8344500	349730	—	69.62
	0430	8351560	356790	—	39.22



SHEET 2 of 2

CLIENT/SUBJECT Gallinas Lagoon W.O. NO. \_\_\_\_\_

TASK DESCRIPTION Flowmeter Readings TASK NO. \_\_\_\_\_

PREPARED BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_ APPROVED BY \_\_\_\_\_

MATH CHECK BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

METHOD REV. BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

(7994770)

DATE	TIME	READING	GALLONS TREATED	FLOW	AVG Flow/Freq
9/14 (6900 min) (7335 min)	0955 1047 1600 2000	2371470 8374940 8393710 8399500	376700 380170 398940 404730	~70 ~70 — 50	42.35 / 55.10 43.2 / 54.39 24 37
9/15 (8115) (8355) (8445) (8730)	0100 0500 0900 1030 1515 2015	6910600 8419990 8425950 8430260 8443180 8459130	415830 425220 431180 435490 448410 464360	— — 55 49 69 —	39.1 / 51.11 21.8 / 51.61 47.9 / 51.57 45.3 / 51.36 53.2 39.5
9/16 (9630) (9945) (10185) 10275	0015 0415 0615 1130 1530 1700	8468610 8482420 8492900 8509640 8522230 8525540	473840 487650 498130 514870 527460 530770	55 — 70 20-90 0-100 —	57.5 87.33 / 51.73 53.14 / 51.77 52.46 / 51.79 36.78 / 51.66
9/17 (11480)	1500 1825 2325	8525540 8534460 8545970	530770 539690 551200	— — 0-120	43.51 / 51.50 63.94 81.77 / 49.45
9/18 (11350)	0925 0900 1140 1530 1815	8556000 8570270 8579300 8591400 8598400	561230 575500 584530 596630 603630	— — — — —	56.44 / 50.78 55. - / 45.97 42.42 / 45.92
9/19 (13235)	0900 1030	8598400 8601550	603630 606780	— —	1 / 35 / 45.85

ENVIRONMENTAL PROTECTION AGENCY  
of Enforcement

REGION 5  
230 South Wabash Street  
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME				NO. OF CONTAINERS	CUSTODY SEAL #S					REMARKS
OH 523	Greiners Lagoon					PCBS	(1)	Oil + Grease	Total Chords	MBP	
SAMPLERS: (Signature) Elise E Allen											
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION					maecorp PO# 23101 - OH 523	
W-03	9/23			X	Effluent	2-1 liter	X			Results + QA/QC TO: FRED WALKER	
W-03	9/23			X	Effluent	1-1 liter	X			17450 HALSTED	
W-03	9/23			X	Effluent	1-1 liter	X			Homewood, IL 60430	
W-03	9/23			X	Effluent	1-1 liter	X			Verbal results + hardcopy to: Deanne Beile 213 County Rd 181 Fremont, Ohio	
										43420	
										419/992-4217	
<i>Samples held for preservation</i>										<i>Samples to be worked</i>	
Relinquished by: (Signature) Elise E Allen	Date / Time 9/23/87 1600	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)						
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)						
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	BILL TO: maecorp INC 17450 Halsted Homewood, IL 60430						

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5-19866

WATER TREATMENT SYSTEM  
SAMPLING PROTOCOL

PURPOSE: To determine the effluent quality of the water being discharged from Greiners Lagoon into the Indian Creek and Sandusky River basins.

INITIAL ANALYSIS: On initial start up of the water treatment system, samples were pulled and analysed for;

- i) PCBs
- ii) total phenols;
- iii) oils and grease;
- iv) ammonia;
- v) MBASs;
- vi) volatiles;
- vii) HSL metals;
- viii) total suspended solids;
- ix) total dissolved solids;
- x) BOD
- xi) pH

After verbal results were received on 9/8/87, the target compounds identified were :

- i) PCBs;
- ii) oil and grease;
- iii) phenols;
- iv) MBAS
- v) pH

These compounds are to be analysed for every three to six days of treatment. The samples will be pulled in accordance with U.S. EPA Region V sampling protocol.

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME					NO. OF CONTAINERS	CUSTODY SEAL #S					REMARKS
04-523	Greiners Lagoon						PCBS	(1)	Fish	Chords	74	
SAMPLERS: (Signature) Elise E Allen						Q1	1/4 liter	TMBP	CPK		34766	
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION						MAECORP PO#	
W-03	9/23		X		EFFluent	1-11.ltr	X				Results+QA/QC TO.	
W-03	9/23		X		EFFluent	1-11.liter	X				FRED WALKER	
W-03	9/23		X		EFFluent	1-11.liter	X				17450 HALSTED	
W-03	9/23		X		EFFluent	1-11.ltr		X			Homewood, IL 60430	
												Verbal results + hard copy to: Deanne Geile 213 County Rd 181 Fremont, Ohio
												43420 419/992-4217
<p><u>Samples held for preservation</u></p>												<u>Samples to Wadsworth</u>
Relinquished by: (Signature) Elise E Allen		Date / Time 9/23/87 1600	Received by: (Signature)			Relinquished by: (Signature)		Date / Time	Received by: (Signature)			
Relinquished by: (Signature)		Date / Time	Received by: (Signature)			Relinquished by: (Signature)		Date / Time	Received by: (Signature)			
Relinquished by: (Signature)		Date / Time	Received for Laboratory by: (Signature)			Date / Time		Remarks B.11 to: MAECORP INC 17450 Halsted Homewood, IL 60430				
<p>Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File</p>												

5-19866

**CHAIN OF CUSTODY RECORD**

Snapper  
9/16 fed EA

**230 South Wabash Street  
Chicago, Illinois 60604**

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

arks Bill to:  
MAECORP  
17450 S. Walskd  
Hermosa, IL 60430

5-19868



SHEET \_\_\_\_ of \_\_\_\_

CLIENT/SUBJECT \_\_\_\_\_ W.O. NO. \_\_\_\_\_

TASK DESCRIPTION \_\_\_\_\_ TASK NO. \_\_\_\_\_

PREPARED BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED BY \_\_\_\_\_

MATH CHECK BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

METHOD REV. BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

Verbal results received 9/22/87 from  
Wadsworth Alert Lab.

W-D2	PCBs	ND (1 ppb)
	MBAS	10 mg/l * 1 mg/l
	O&G	
	Rhomb	0.03 ppm ** 6.2
	pH	

\* Increased since last sampling

\*\* Decreased since last sampling

## **CHAIN OF CUSTODY RECORD**

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5-21995

CLIENT/SUBJECT \_\_\_\_\_ W.O. NO. \_\_\_\_\_

TASK DESCRIPTION \_\_\_\_\_ TASK NO. \_\_\_\_\_

PREPARED BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_ APPROVED BY \_\_\_\_\_

MATH CHECK BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

METHOD REV. BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

Greens Lagoon  
water sample #1  
Verbal results from B. Peters 9/8/87 + 9/9/87

Parameter

TSS	70 ppm
TDS	1800 ppm
BOD	7.1 ppm
MBAS	0.6 ppm
A <del>NH3-N</del> Ammonia	2.9 mg/L
O O+G	5 mg/L
O Total phenols	0.06 mg/L
O pH	7.3
O PCBs	ND

metals (

silver	< 0.01	Potassium	24
aluminum	0.36	Magnesium	17
arsenic	0.032	manganese	0.6
barium	< 0.1	sodium	480
beryllium	< 0.005	nickel	0.09
calcium	42	lead	< 0.05
cadmium	< 0.01		
cobalt	< 0.05		
chromium	< 0.02		
copper	< 0.01		
iron	2.1		
mercury	< 0.005		
antimony	< 0.2		
selenium	< 0.005		
thallium	< 0.1		
vanadium	< 0.1		
zinc	< 0.01		

CLIENT/SUBJECT \_\_\_\_\_ W.O. NO. \_\_\_\_\_

TASK DESCRIPTION \_\_\_\_\_ TASK NO. \_\_\_\_\_

PREPARED BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_ APPROVED BY \_\_\_\_\_

MATH CHECK BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

METHOD REV. BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

Greener's Lagoon  
Water Sample #1  
Verbal results from B. Peters 9/8/87 + 9/9/87

Volatile

Trichloroethene .48 ug/L  
Toluene .22 ug/L

Benzene	ND
Vinyl Chloride	ND
2-Chloroethene	ND
1,2-dichlorobenzene	ND
1,3-dichlorobenzene	ND
1,4-dichlorobenzene	ND
1,1-dichloroethane	ND
1,2-dichloroethane	ND
cis 1,3-dichloropropene	ND
trans 1,3-dichloropropene	ND
Ethyl benzene	ND
Methylene Chloride	ND
1,1,2,2-tetrachloroethane	ND

T

1

T

## AIR MONITORING PROGRAM

**BACKGROUND:** Previous surveys at Greiners Lagoon had proven Level C activities to be adequate.

**DOCUMENTATION:** On August 30, 1987, a site survey was conducted to document the background levels. A rad meter was used with no levels above background. An HNu survey showed background levels of 1 unit with a site high reading of 1.7 units.

**AIR MONITORING:  
PROGRAM** A perimeter survey with the HNu will be conducted at least twice during any shift along the northern and eastern perimeters, in the Level D areas. The purpose of this is to determine the off-site migration potential.

**WATER TREATMENT:** During the water treatment phase, the TAT will perform air monitoring at least twice per shift (4 times per 24 hour day) in the treatment area. This will be completed with either an HNu or an OVA. The required level of protection in the treatment area as of 9/8/87 is Level C. Background levels will be established and readings recorded for potential downgrading of protection. The monitoring in the water treatment area is in addition to the regular air monitoring program.

CLIENT/SUBJECT			W.O. NO.
TASK DESCRIPTION			TASK NO.
PREPARED BY	DEPT	DATE	APPROVED BY
MATH CHECK BY	DEPT	DATE	
METHOD REV. BY	DEPT	DATE	

## Air Monitoring Program

Background: Previous surveys at Greiness Lagoon had shown Level C protection to be adequate.

Documentation: On August 30, 1987, a site survey was conducted to document the background levels of any air contaminants. A radiation meter was used with no readings above background detected. An HNU survey showed background levels levels of 1 unit with a site high reading of 1.7 units.

Air Monitoring Program: A perimeter survey with the HNU will be conducted at least twice during any shift along the northern and eastern perimeters in the Level B areas. The purpose of this is to determine the off-site migration potential.

Water Treatment Area: During the water treatment phase, the TAT will perform air monitoring with at least twice per shift (4X/24 hours day) in the treatment area. This will be accomplished ~~at least~~ with either an HNU or an OVA. The required level of protection in the treatment area as of 8/87 is Level C. Background levels will be established and readings recorded for potential downgrading of protection.

- This is in addition to the regular treatment program



SHEET 9 of \_\_\_\_\_

ENT/SUBJECT Gilmer Air Monitoring Team W.O. NO. \_\_\_\_\_

W.O. NO. \_\_\_\_\_

**TASK NO.** \_\_\_\_\_

**PREPARED BY** \_\_\_\_\_ **DEPT.** \_\_\_\_\_ **DATE** \_\_\_\_\_ **APPROVED BY** \_\_\_\_\_

**MATH CHECK BY** \_\_\_\_\_ **DEPT** \_\_\_\_\_ **DATE** \_\_\_\_\_

METHOD REV. BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

IENT/SUBJECT

# Gallina Air Monitoring Log

W.O. NO.

SK DESCRIPTION

TASK NO.

PREPARED BY

DEPT

DATE

APPROVED BY

MATH CHECK BY

DEPT

DATE

METHOD REV. BY

DEPT

DATE

DEPT

DATE

DATE TIME	STATION	READING	Comments
BWB 11/18 10:55	East perimeter Line pit Eastern edge lagoon NW solidifying pit Sludge piles Top 1/3 over 1 and 2	2.0 5.0 2.0 5-10.0 3-5.0 2-5.0	cold, windy
11/19 1000	Wind from South Background East Perimeter	0.60 1.4	
1400	North perimeter Wind from South Background East Perimeter North perimeter	2.0 0.6 1.6 2.3	direct wind line
11/20 1130	Background east perimeter north perimeter	.6 1.0 2.0	
11/21 1030	Wind from NW Background east perimeter north perimeter	0.6 1.4 → 3.0 0.6	COLD + 25°F
	Calibrated 11/21/87 1030. span at 6.03, 11.7 probe		
11/23 1030 BIS	wind from South - very strong background east perimeter north perimeter	0-8 1.2 1.10	



SHEET 7 of \_\_\_\_\_

IENT/SUBJECT

Glenview Air Monitoring Log

W.O. NO.

SK DESCRIPTION

TASK NO.

PREPARED BY

DEPT

DATE

APPROVED BY

MATH CHECK BY

DEPT

DATE

METHOD REV. BY

DEPT

DATE

DEPT DATE

DATE	TIME	STATION	READING	Comments
11-6 cont.		Solidifying Pits	5.0-10.0	
	1545	Top Lagoon 1+2	3-5.0	
		Perimeter	1-1.5	
11-7		Eastern Edge Lagoon #3	1.0	
1400		NE solidifying Pit (staged)	40.0-50.0	more limey
		NW solidifying Pit (staged)	10.0-15.0	
		Top Lagoon 1+2	3.0-5.0	
11/11		wind from W		
	1400	East edge lagoon 3	<5	
		South edge lagoon 3	41	
		NW lagoon pile	up to 30	
		NE lagoon pile	<5	
		on top 1+2	<5	
11/12		wind from S-SW		
	1445	Eastern border	<1	
		Northern "	<1	
		NE corner (trailer)	up to 2.0	
		Upwind	0.6	
11/16 BWG		Northern and Eastern perimeter	1.0	windy from S E
1300		- Calibrated, Span at 6.03 w/ 11.7 Probe,		
11/17 BWG		East edge Lagoon 3	5.0	windy from SW
1556		South edge Lagoon 3	1.2	
		West edge Lagoon	1.2	Lime pit 5.00
		NW lagoon pile	10-15	Top Lagoon 1+2
		NE lagoon pile	5-10	3-10 units

CLIENT/SUBJECT \_\_\_\_\_ W.O. NO. \_\_\_\_\_

ASK DESCRIPTION \_\_\_\_\_ TASK NO. \_\_\_\_\_

PREPARED BY _____	DEPT _____	DATE _____	APPROVED BY _____
MATH CHECK BY _____	DEPT _____	DATE _____	_____
METHOD REV. BY _____	DEPT _____	DATE _____	DEPT _____ DATE _____

DATE	STATION	Reading	Comments
11-3 BWB	Site perimeter	1.0	readings taken
1215	perimeter #3	1.2	before work started
1600	NE solidified pile	6.0 up to 7.5	gusty wind
	NW solidified pile	6.0 up to 7.5	
	Lagoon 1 + 2	3 up to 6	
	Lime pit	5.0	
	Eastern perimeter	1.5	during gusts
11-4 BWB	Eastern and western perimeter	1.0 - 1.5 up to 6.0	up to 6.0 during gusts at wind
1130			wind from S W
1550	Eastern perimeter	2.0 - 2.5	
	NE solidifying pit	6 - 15	
	NW solidifying pit	10 - 20	
	Lagoon 1 + 2	5 - 10	
11-5 BWB	Eastern perimeter	1 - .6	very windy
1550	Northern perimeter	1.0 - .6	
	NE solidifying pit	5.0	
	NW solidifying pit	4.8	
	Lime pit	5.0	
	Ocean wind Eastern side	6.0	
	Lagoon #3		
11-6 BWB	Staging Area Lagoon #1 + 2	1 - 3.0	clear
1110	Lime pit	8 - 12.0	slight breeze
	NW solidifying pit	3 - 5.0	
	Eastern border Lagoon #3	2.0	

CLIENT/SUBJECT \_\_\_\_\_ W.O. NO. \_\_\_\_\_

ASK DESCRIPTION \_\_\_\_\_ TASK NO. \_\_\_\_\_

PREPARED BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE. \_\_\_\_\_ APPROVED BY \_\_\_\_\_

MATH CHECK BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE. \_\_\_\_\_

METHOD REV. BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE. \_\_\_\_\_

Date	STATION	Reading	Comments
10/28 1030	Wind from N East perimeter #3 South perimeter #3 West perimeter #3 Background Bogom 1+2 Lime	0.60 1.2 0.6 0.6 0.6 up to 4.0 0.6	
10/29 0650	Along N+E perimeter	<2	Strong odors

CLIENT/SUBJECT \_\_\_\_\_ W.O. NO. \_\_\_\_\_

ASK DESCRIPTION \_\_\_\_\_ TASK NO. \_\_\_\_\_

PREPARED BY _____	DEPT _____	DATE _____	APPROVED BY _____
MATH CHECK BY _____	DEPT _____	DATE _____	
METHOD REV. BY _____	DEPT _____	DATE _____	DEPT _____ DATE _____

DATE	STATION	READING	COMMENTS
10/22 1430	Background lagoon 1+2 NW solidified pile NE solidified pile	Hnu 0.6 upto 5.0 ~10, high 20 ~10, high 20	wind from S → SW
10/23 1130	SW → W wind direction Background lagoon 1+2 NW solidified pile NE solidified pile western lagoon border Southern lagoon border Eastern lagoon border	0.8 ~5, high 7 ~10, high 15 ~10, high 15 ~3 ~1.6 0.8 ~2.5	
10/24	Raining		
10/26 1630	S → SW wind Background lagoon 1+2 NE solidified pile NW solidified pile lime	0.6 10-20 5 5 0.8	
10/27 1500	Raining in AM Calibrated to 9.02 open N perimeter W perimeter	0.6 1.2	

CLIENT/SUBJECT \_\_\_\_\_ W.O. NO. \_\_\_\_\_

ASK DESCRIPTION \_\_\_\_\_ TASK NO. \_\_\_\_\_

PREPARED BY _____	DEPT. _____	DATE _____	APPROVED BY _____  DEPT. _____ DATE _____
MATH CHECK BY _____	DEPT. _____	DATE _____	
METHOD REV. BY _____	DEPT. _____	DATE _____	

DATE/TIME	STATION	READINGS	
10/7/87 1500	NW Sludge pile NE Sludge pile lime pile lagoon oil + sludge background	200-250 3-5 10-15 3-5 1	
10/8/87 1700	NW Sludge pile NE Sludge pile lime pile East, lagoon <sup>3</sup> border West lagoon <sup>3</sup> border South lagoon <sup>3</sup> border background	10-15 upto 50 10-15 1 4 1 1	
	(DVA NOT WORKING, NO	READINGS AVAILABLE)	
10/21 HNu 1130	calibrated . 11.7 probe , 58 reading . 0pm at 9.02 wind from Southerly directions		
	background	, 6	
	N perimeter ("off site")	1.4	
	W perimeter ("off site")	1.0	
1500	background	0.6	
	East lagoon <sup>3</sup> border	1.0	
	West lagoon <sup>3</sup> border	1.0	
	South lagoon <sup>3</sup> border	1.0	
	NW Sludge pile	upto 3.0	
	NE Sludge pile	upto 20	
	lagoon 1+2 (top)	upto 10	
	East lagoon 1+2 border	upto 1.0	
	West lagoon 1+2 border	upto 1.0	
	North lagoon 1+2 border	upto 1.0	

CLIENT/SUBJECT \_\_\_\_\_

ASK DESCRIPTION \_\_\_\_\_

W.O. NO. \_\_\_\_\_

TASK NO. \_\_\_\_\_

APPROVED BY \_\_\_\_\_

DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

PREPARED BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_  
MATH CHECK BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

METHOD REV. BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

STAN. NO. \_\_\_\_\_

RFW-10-05  
003/A-5/85

DATE	TIME	HNU #	N Perimeter	E Perimeter	treatment area	Comments	STAN. NO.
9/16	1130		<.2	<.2	<.2	Drizzle	
9/17	1400		<.2	<.2	<.2		
9/18	1430		.2	.2	.2	a. a high during trenching at lagoon	
9/22	2300		<.2	<.2	<.2	cloudy	Bug
9/23	0500		.2	.2	.2	clear	Bug
	1130		.2	.2	.2	- on site .2	
9/26	1200	11.7	probe, span at 7.76, calibrated to 68 w/gas	.6	.6		
9/28	1230		.6	.6	.6	around lagoon	
9/28	1000		.8	.8	.8	strong odor ~1.2	
	1300		.8	.8	.8	strong odors, rags	
	0845-1015					background at 1.0 + tanks	
	1115-1215					Background at 1.0 + tanks	
	1300-1500					Background at 1.0 + tanks	
	1530-1730					Background + tanks at 1.0	
9/30	Calibration = 11.7 probe, span at 8.37, reading 64 w/cal gas						
	0830-1100					lagoon: 1.8-2.8	
	1345		1.0	1.0	1.0	poly tank at 10+	
10/7	1130		0.6-1.8	0.6	0.6	Gusty wind, 45°	

( i) Monitoring log - Gne ens tags in

RFW 10-05 003/A-5/85

DATE	TIME	HNU UNIT #	N. Perimeter		E perimeter		Treatment Area	Comments	DESCRIPTION		APPROVED BY	W.O. NO.	TASK NO.
			Perimeter	Span	Perimeter	Span			ARED BY	CHECK BY	MOD REV. BY	DEPT	DATE
9/9	1030		Background .4	Bkgd .4		.4		Foggy in AM	ED	ED	9/9/85	BU/B	
	1630		.2	.2		.2		Sunny	ED	ED		BU/B	
	2230		.2	.2		.2		c/c/AT				BU/B	
9/10	0500		.2	.2		.2		Instrument Failure 2046 upon entering Treatment	ED	ED		BU/B	
	1030		.2	.2		.2			ED	ED		BU/B	
	1700		.2	.2		.2			ED	ED		BU/B	
	2300		.3	.2		.2			ED	ED		BU/B	
9/11	0545		.2	.2		.2			ED	ED		BU/B	
	1030		.2	.2		.2			ED	ED		BU/B	
	1700		.2	.2		.2			ED	ED		BU/B	
	2330		.2	.2		.2			ED	ED		BU/B	
9/12	0530		.2	.2		.2			ED	ED		BU/B	
	2300		.2	.2		.2			ED	ED		BU/B	
	1100		.2	.2		.2			ED	ED		BU/B	
	1100		—	—		—			ED	ED		BU/B	
9/13	1100		.2	.2		.2			ED	ED		BU/B	
	1630		.2	.2		.2			ED	ED		BU/B	
	Calibrated 1900	- span at 5.6 on 10.2 probe							ED	ED		BU/B	
	2230		.2	.2		.2			ED	ED		BU/B	
9/14	Calibrated 0830	- span at 8.0 on 10.2 probe							ED	ED		BU/B	
	1100		.2	.2		.2			ED	ED		BU/B	
	2300		.3	.2		.2			ED	ED		BU/B	
9/15	0500		.2	.2		.2			ED	ED		BU/B	
	- Rained all day, NO monitoring												
9/16	Calibrated 0500	- span reset to 9.8 on 10.2 probe							ED	ED		BU/B	
	0530		.2	.2		.2			ED	ED		BU/B	

**WESTON**  
MANAGERS DESIGNERS CONSULTANTS

IDENT/SUBJECT

# Gallinae Air Monitoring Log

W.O. NO.

SK DESCRIPTION

TASK NO.

PREPARED BY

DEPT

DATE

APPROVED BY

MATH CHECK BY

DEPT

DATE

METHOD REV. BY

DEPT

DATE

DEPT

DATE

DATE TIME	STATION	READING	Comments
6/5/88 0800	Background (cornfield) NE corner S + NW corner SW corner	0.0 units 0.2 to 0.4 units 0.0 units 0.0 units	Background Downwind — upwind —
6/6/88 1115	Background (field N. of trailer) General Parameter 0.2 units. SE corner NE corner North of trailer East South East	0.2 units 0.2 to 1 units 2.6 units 1.0 units 0.2 1.0 units 2.0 units	winds out of the west. Mild to no wind.
1440	North of trailer North of site South of site West of site East of site	0.2 0.2 0.2 0.2 0.6 - 2.0 units	Background near lagoon 3 Background up wind Downwind
6-7-88 0830	North of trailer North of site South of site West of site East of site	0.2 0.2 0.2 0.2 0.2	up wind Downwind Background —
2000	North of trailer North end South end West end East end	0.2 0.2 0.2 0.2 0.6 - 2.0	Background — upwind Downwind
6-8-88 1615	North of trailer North of lagoon South of lagoon East West	0.2 0.2 0.2 0.2 0.2	Background Downwind upwind Downwind Do upwind Downwind Strong
6-9-88 1030	North of trailer North of site East of Site West of site South of site	0.0 0.0 0.0 1.0 0.0	Background upwind Downwind



**SHEET** \_\_\_\_\_ of \_\_\_\_\_

**IDENT/SUBJECT**

# Glenwood Air Monitoring Log

W.O. NO. \_\_\_\_\_

## **SK DESCRIPTION**

**TASK NO.**

PREPARED BY

**DEPT.** \_\_\_\_\_ **DATE** \_\_\_\_\_

- DATE

---

**APPROVED BY**

MATH CHECK BY

**DEPT** \_\_\_\_\_ **DATE** \_\_\_\_\_

DATE

METHOD REV BY

**DEPT** \_\_\_\_\_ **DATE** \_\_\_\_\_



SHEET \_\_\_\_\_ of \_\_\_\_\_

CLIENT/SUBJECT Galena Air Monitoring Log W.O. NO. \_\_\_\_\_

ASK DESCRIPTION \_\_\_\_\_ TASK NO. \_\_\_\_\_

PREPARED BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_ APPROVED BY \_\_\_\_\_

MATH CHECK BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

METHOD REV. BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

DATE TIME	STATION	READING	COMMENTS
6-10-88 0900	North of trailer	0.0	Background
	East of site	0.0	Upwind
	South of site	0.0	—
	West of site	0.0	Downwind
	North of site	0.0	—





CLIENT/SUBJECT \_\_\_\_\_

ASK DESCRIPTION \_\_\_\_\_

W.O. NO. \_\_\_\_\_

TASK NO. \_\_\_\_\_

APPROVED BY \_\_\_\_\_

PREPARED BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

MATH CHECK BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

METHOD REV. BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

SHEET \_\_\_\_ of \_\_\_\_

Greener's begin. Our monitors help

E Perimeter

area

Comments

Treatment

area

Comments

SHEET        of       

CLIENT/SUBJECT \_\_\_\_\_

W.O. NO. \_\_\_\_\_

TASK NO. \_\_\_\_\_

ASK DESCRIPTION \_\_\_\_\_

APPROVED BY \_\_\_\_\_

PREPARED BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

DEPT \_\_\_\_\_ DATE \_\_\_\_\_

DEPT \_\_\_\_\_ DATE \_\_\_\_\_

DEPT \_\_\_\_\_ DATE \_\_\_\_\_

MATH CHECK BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

DEPT \_\_\_\_\_ DATE \_\_\_\_\_

DEPT \_\_\_\_\_ DATE \_\_\_\_\_

METHOD REV. BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

DEPT \_\_\_\_\_ DATE \_\_\_\_\_

DATE	TIME	HNU #	N Perimeter	E Perimeter	Treatment Area	Comments	Approving

2

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GREINERS LAGOON'S  
EXTENT OF CONTAMINATION STUDY  
SAMPLING PLAN

**1. PURPOSE**

To define the extent of contamination on the surface of the lagoons and the depth to which the contamination extends. The following areas will be addressed separately in the sampling plan due to their different nature of exposure:

- i) surface area of lagoon 4,
- ii) overflow ditch on the northern and western boundaries of the site;
- iii) area immediately adjacent to two storage tanks on the eastern side;
- iv) surface area of lagoons 1 and 2;
- v) along the drainage ditch on the eastern border;
- vi) depth of contaminated material under the cap of lagoon 4;
- vii) depth of contamination underneath lagoons 1 and 2;
- viii) depth of contamination in the sludge and soils underneath lagoon 3 (after dewatering activities).

**2. METHODOLOGY**

**A. COLLECTION PROCEDURES - Surface Samples**

- i) The Greiners Lagoon site safety plan requires a minimum of Level C protection. During sampling operations, a clean pair of disposable sampling gloves will be used for each sample taken. Either a pair of Viton or Nitrile gloves will be worn underneath the sample gloves and be taped down onto the tyvek.
- ii) Clean 8 ounce, glass, wide mouth jars with teflon lined lids will be used for every sample.
- iii) A clean disposable wooden sampling spatulas will be used for each sample taken.
- iv) Sample bottles will be wiped down after collection with distilled water and soap, hexane rinse and a distilled water rinse.
- v) Split samples, or duplicates, will be homogenized by placing enough sample material into a clean ziplock baggie or on to a clean aluminum pie tin. The sample material will be thoroughly mixed before placing it into the appropriate sample bottles.

#### B. SURFACE SAMPLE LOCATIONS

- use pattern  
wood
- i) Lagoon 4: a grid will be laid on top of the lagoon 4 area and samples will be taken at intervals set by the grid. Several random samples will be taken in areas that appear to have obvious contamination. Because lagoon 4 was capped with clay, the grid will only measure 400 feet by 375 feet with samples every 100 feet.
  - ii) Lagoons 1 and 2: a grid will be laid on top of the two lagoons and samples will be taken at intervals set by the grid. Several random samples will also be taken in areas that appear to have obvious contamination. These lagoons were filled in with material obtained locally and not capped with clay, thus there may be some upward migration of material if the fill material used was for displacement not absorbency.
  - iii) Overflow ditches: samples will be taken every 100 feet along the ditches. This area is visibly contaminated due to overflow of oil out of the lagoons.
  - iv) Around the tanks: Samples will be taken at the north and south ends of the tank area. Due to the heavy underbrush, sampling in concentric circles away from the tanks is not possible. There is visible contamination in the area of the tanks.
  - v) Drainage ditches: samples will be taken every 100 feet up the drainage ditches on the eastern border of the site. Several random samples will be taken in areas of obvious contamination .

.end

#### C. Depth sample locations

- i) lagoon 4: Using the grid pattern set by the surface sample location, up to ten depth samples will be taken.
- ii) lagoons 1+2: Five <sup>depth</sup> samples will be taken on ~~the~~ lagoons 1+2.
- iii) lagoon 3: Determination for the need of depth samples on the lagoon 3 area will be made after dewatering and solidification activities.

GREINERS LAGOON'S  
EXTENT OF CONTAMINATION STUDY  
SAMPLING PLAN

**1. PURPOSE**

To define the extent of contamination on the surface of the lagoons and the depth to which the contamination extends. The following areas will be addressed separately in the sampling plan due to their different nature of exposure:

- i) surface area of lagoon 4;
- ii) overflow ditch on the northern and western boundaries of the site;
- iii) area immediately adjacent to two storage tanks on the eastern side;
- iv) surface area of lagoons 1 and 2;
- v) along the drainage ditch on the eastern border;
- vi) depth of contaminated material under the cap of lagoon 4;
- vii) depth of contamination underneath lagoons 1 and 2;
- viii) depth of contamination in the sludge and soils underneath lagoon 3 (after dewatering activities).

**2. METHODOLOGY**

**A. COLLECTION PROCEDURES- SURFACE SAMPLES**

- i) The Greiners Lagoon site safety plan requires a minimum of Level C protection. During sampling operations, a clean pair of disposable sampling gloves will be used for each sample taken. Either a pair of Viton or Nitrile gloves will be worn underneath the sample gloves and be taped down onto the tyvek.
- ii) Clean 8 ounce, glass, wide mouth jars with teflon lined lids will be used for every sample.
- iii) A clean disposable wooden sampling spatulas will be used for each sample taken.
- iv) Sample bottles will be wiped down after collection with distilled water and soap, hexane rinse and a distilled water rinse.
- v) Split samples, or duplicates, will be homogenized by placing enough sample material into a clean ziplock baggie or on to a clean aluminum pie tin. The sample material will be thoroughly mixed before placing it into the appropriate sample bottles.

## B. SURFACE SAMPLE LOCATIONS

- i) Lagoon 4: a grid like pattern will be used on top of the lagoon 4 area and samples will be taken at intervals set by the grid. Several random samples will be taken in areas that appear to have obvious contamination. Because lagoon 4 was capped with clay, the grid will only measure 400 feet by 375 feet with samples every 100 feet.
- ii) Lagoons 1 and 2: a grid like pattern will be used on top of the two lagoons and samples will be taken at intervals set by the grid. Several random samples will also be taken in areas that appear to have obvious contamination. These lagoons were filled in with material obtained locally and not capped with clay, thus there may be some upward migration of material if the fill material used was for displacement not absorbency.
- iii) Overflow ditches: samples will be taken every 100 feet along the ditches. This area is visibly contaminated due to overflow of oil out of the lagoons.
- iv) Around the tanks: Samples will be taken at the north and south ends of the tank area. Due to the heavy underbrush, sampling in concentric circles away from the tanks is not possible. There is visible contamination in the area of the tanks.
- v) Drainage ditches: samples will be taken every 100 feet up the drainage ditches on the eastern side of the site. Several random samples will be taken in

## C. DEPTH SAMPLES

Lagoon 4: 10' depth sample will be taken in the center of the lagoon.



SHEET \_\_\_\_\_ of \_\_\_\_\_

# Glenwood Lagoon Sampling / Sample tracking

Page 1

CLIENT/SUBJECT	TASK DESCRIPTION	W.O. NO.	APPROVED BY	LAB	DATE SMPD DATE SENT	PARAMETERS	COMMENTS
PREPARED BY	DEPT	DATE	DEPT	DATE	DEPT	DATE	
MATH CHECK BY	DEPT	DATE	DEPT	DATE	DEPT	DATE	
METHOD REV. BY							
S-01	WAADS	8/30	/	9/3	PCBs	NE corner of site	Returned to site
S-02	WAADS	8/30	/	9/3	PCBs		Returned to site
S-03	WAADS	8/30	/	9/3	PCBs		Returned to site
S-04	WAADS	8/30	/	9/3	PCBs		Returned to site
S-05	WAADS	8/30	/	9/3	PCBs		Returned to site
S-06	WAADS	8/30	/	9/3	PCBs		Returned to site
S-07	WAADS	8/30	/	9/3	PCBs		Returned to site
S-08	WAADS	8/30	/	9/3	PCBs		Returned to site
S-09	WAADS	8/30	/	9/3	PCBs		Returned to site
S-10	WAADS	8/30	/	9/3	PCBs		Returned to site
S-11	WAADS	8/30	/	9/3	PCBs		Returned to site
S-12	WAADS	8/30	/	9/3	PCBs		Returned to site
S-13	WAADS	8/30	/	9/3	PCBs		Returned to site
S-14	WAADS	8/30	/	9/3	PCBs		Returned to site
S-15	WAADS	8/30	/	9/3	PCBs		Returned to site
S-16	WAADS	8/30	/	9/3	PCBs		Returned to site
S-17	WAADS	8/30	/	9/3	PCBs		Returned to site
S-18	WAADS	8/30	/	9/3	PCBs		Returned to site
S-19	WAADS	8/30	/	9/3	PCBs		Returned to site
S-20	WAADS	8/30	/	9/3	PCBs		Returned to site
S-21	WAADS	Sample cancelled					
S-22	WAADS	Sample cancelled					
S-23	WAADS	8/30	/	9/3	PCBs	NE corner of site	Returned to site
S-24	WAADS	8/30	/	9/3	PCBs		Returned to site
S-25	WAADS	9-2	/	9-3	PCBs		Returned to site
S-26	WAADS	9-2	/	9-3	PCBs		Returned to site



SHEET \_\_\_\_\_ of \_\_\_\_\_

CLIENT/SUBJECT	TASK DESCRIPTION	PREPARED BY	DEPT	DATE	APPROVED BY	DEPT	DATE	W.O. NO.	TASK NO.	sample #	lab	Date sampled/ Date shipped	parameters	Comments
METHOD REV. BY	METHOD REV. BY	DEPT	DATE	DEPT	DATE	DEPT	DATE							
										S-27	WADS	9-2 / 9-3	PCBs	NE corner of site
										S-28	WADS	9-2 / 9-3	PCBs	5/6/88 A+B lab
										S-29	WADS	9-2 / 9-3	PCBs	NE corner of site
										S-30	WADS	9-2 / 9-3	PCBs	5/6/88 A+B lab
										S-31	WADS	9-2 / 9-3	PCBs	NE corner of site
										S-32	WADS	9-2 / 9-3	PCBs	NE corner of site
										S-33	WADS	9-2 / 9-3	PCBs	NE corner of site
										S-34	WADS	9-2 / 9-3	PCBs	NE corner of site
										S-35	WADS	9-2 / 9-3	PCBs	NE corner of site
										S-36	WADS	9-2 / 9-3	PCBs	NE corner of site
										S-37	WADS	9-3 / 9-3	PCBs	NE corner of site
										S-38	WADS	9-3 / 9-3	PCBs	NE corner of site
										S-39	WADS	9-3 / 9-3	PCBs	NE corner of site
										S-40	WADS	9-3 / 9-3	PCBs	NE corner of site
										S-41	WADS	9-3 / 9-3	PCBs	NE corner of site
										S-42	WADS	9-3 / 9-3	PCBs	NE corner of site
										S-43	WADS	9-3 / 9-3	PCBs	NE corner of site
										S-44	WADS	9-3 / 9-3	PCBs	NE corner of site
										S-45	WADS	9-3 / 9-3	PCBs	NE corner of site
										S-46	WADS	9-3 / 9-3	PCBs	NE corner of site
										S-47	WADS	9-3 / 9-3	PCBs	NE corner of site
										S-48	WADS	9-3 / 9-3	PCBs	NE corner of site
										S-49	WADS	9-3 / 9-3	PCBs	NE corner of site
										S-50	WADS	9-3 / 9-3	PCBs	NE corner of site
										S-51	WADS	9-3 / 9-3	PCBs	NE corner of site
										S-52	WADS	9-11 / 9-14	PCBs	NE corner of site

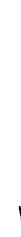
# Grenier Lagoon Sampling / Sample tracking Sheet

(P.3)



CLIENT/SUBJECT		TASK DESCRIPTION		W.O. NO.	SHEET _____ of _____	APPROVED BY	TASK NO.	SAMPLE #	Lab	Date sampled/ Date shipped	Parameters	Comments
PREPARED BY	MATH CHECK BY	DEPT	DATE									
				S-53	WAOS	9-11	/	9-14	PCBs		NE corner of site	returned to site
				S-54	WAOS	9-11	/	9-14	PCBs			returned to site
				S-55	WAOS	9-11	/	9-14	PCBs			returned to site
				S-56	WAOS	9-12	/	9-14	PCBs			returned to site
				S-57	WAOS	9-12	/	9-14	PCBs			returned to site
				S-58	WAOS	9-12	/	9-14	PCBs			returned to site
				S-59	WAOS	9-12	/	9-14	PCBs			returned to site
				S-60	WAOS	9-12	/	9-14	PCBs			returned to site
				S-61	WAOS	9-12	/	9-14	PCBs			returned to site
				S-62	WAOS	9-12	/	9-14	PCBs			returned to site
				S-63	WAOS	9-12	/	9-17	PCBs			returned to site
				S-64	WAOS	9-12	/	9-17	PCBs			returned to site
				S-65	WAOS	9-12	/	9-17	PCBs			returned to site + sample resubmitted
				S-65b	Gulf Coast	9-12	/	10-6	PCBs			[ ] Composited to S-86
				S-66	WAOS	9-12	/	9-17	PCBs			
				S-67	WAOS	9-12	/	9-17	PCBs			
				S-68	WAOS	9-12	/	9-17	PCBs			
				S-69	WAOS	9-12	/	9-17	PCBs			
				S-70	WAOS	9-12	/	9-17	PCBs			
				S-71	WAOS	9-12	/	9-17	PCBs			
				S-72	WAOS	9-13	/	9-17	PCBs			
				S-73	WAOS	9-13	/	9-17	PCBs			
				S-74	WAOS	9-13	/	9-17	PCBs			sample resubmitted
				S-75b	Gulf Coast	9-13	/	9-17+10-6	PCBs			after return
				S-75	WAOS	9-13	/	9-17	PCBs			[ ] Composited to S-87
				S-76	WAOS	9-13	/	9-17	PCBs			

NE corner of site



## Griner's Cagoon Sampling / Sample tracking



CLIENT/SUBJECT	TASK DESCRIPTION	PREPARED BY	DEPT	DATE	APPROVED BY	W.O. NO.	TASK NO.	DEPT	DATE	DEPT	DATE	DATE SENT	DATE Sampled	PARAMETERS	COMMENTS
S-77	WAOS	WAOS		9-13			S-77	WAOS		PCBs		9-17	/ 9-17	NE corner of site	returned to site
S-78	WAOS	WAOS		9-13			S-78	WAOS		PCBs		9-17	/ 9-17		returned to site
S-79	WAOS	WAOS		9-13			S-79	WAOS		PCBs		9-17	/ 9-17		returned to site
S-80	WAOS	WAOS		9-13			S-80	WAOS		PCBs		9-17	/ 9-17		returned to site
S-81	WAOS	WAOS		9-13			S-81	WAOS		PCBs		9-17	/ 9-17		returned to site
S-82	WAOS	WAOS		9-13			S-82	WAOS		PCBs		9-17	/ 9-17		Returned to site *
S-83	WAOS	WAOS		9-13			S-83	WAOS		PCBs		9-17	/ 9-17		Returned to site +
S-84b	GulfCoast	GulfCoast		9-13			S-84b	GulfCoast		PCBs		9-13	/ 9-13-6		resubmitted
S-84	WAOS	WAOS		9-13			S-84	WAOS		PCBs		9-17	/ 9-17		Returned to site
S-85	ERWADS	ERWADS		9-24			S-85	ERWADS		PCBs		9-24	/ 9-24		
S-85b	ERG	ERG		9-24			S-85b	ERG		ABN, HSL, PCBs		9-24	/ 9-24		
S-86	ERG	ERG		9/24			S-86	ERG		ABN, HSL		9/24	/ 9/24		
S-87	ERG	ERG		9/24			S-87	ERG		ABN, HSL		9/24	/ 9/24		
S-88							S-88								
S-89a	WAOS	WAOS		10-6			S-89a	WAOS		PCBs		10-6	/ 10-6		
S-89b	GulfCoast	GulfCoast		10-6			S-89b	GulfCoast		PCBs		10-6	/ 10-6		
S-90a	WAOS	WAOS		10-6			S-90a	WAOS		PCBs		10-6	/ 10-6		
S-90b	GulfCoast	GulfCoast		10-6			S-90b	GulfCoast		PCBs		10-6	/ 10-6		
S-91	GC	GC		10-26			S-91	GC		PCBs		10-26	/ 10-27		
S-92	GC	GC		10-26			S-92	GC		PCBs		10-26	/ 10-27		
S-93	GC	GC		10-26			S-93	GC		PCBs		10-26	/ 10-27		
S-94	GC	GC		10-26			S-94	GC		PCBs		10-26	/ 10-27		
S-95	GC	GC		10-26			S-95	GC		PCBs		10-26	/ 10-27		
S-96	GC	GC		10-26			S-96	GC		PCBs		10-26	/ 10-27		
S-97	GC	GC		10-26			S-97	GC		PCBs		10-26	/ 10-27		
S-98	GC	GC		10-26			S-98	GC		PCBs		10-26	/ 10-27		

GC = Gulf Coast



SHEET — of —

## Greenup lagoon, Sampling / Sample tracking



GULF COAST LABORATORIES, INC.

2417 Bond St., University Park, Illinois 60466

Phones (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

TO: MAECORP, Incorporated  
17450 South Halsted Street  
Homewood IL 60430

DATE: 10/13/87

ATTN: Mr. Fred Walker

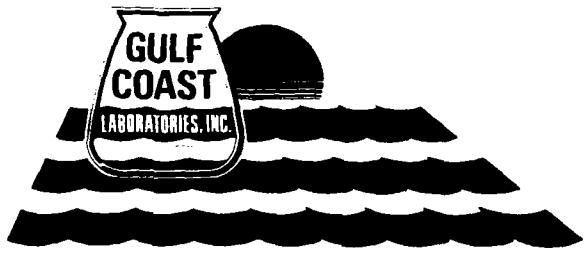
RE: Proj# OH523 - Greiners Lagoon  
S-89B - S10 - PO# 23347-OH523  
Sample Date: 10/06/87  
Date Received: 10/07/87  
GCL Number: 114379

GCL #	PARAMETERS	ANALYST	RESULTS		
114379	PCBs, Total	bjw	13	mg/kg	d
114379	Aroclor 1016	bjw	< 10	mg/kg	d
114379	Aroclor 1221	bjw	< 10	mg/kg	d
114379	Aroclor 1242	bjw	< 10	mg/kg	d
114379	Aroclor 1248	bjw	< 10	mg/kg	d
114379	Aroclor 1254	bjw	13	mg/kg	d
114379	Aroclor 1260	bjw	< 10	mg/kg	d
114379	Solids, Total	bs	61.0	%	
114379	}Result is on a dry weight basis		d		

Approved:

*Ray Frederici*

Date 10-14-87



GULF COAST LABORATORIES, INC.

2417 Bond St., University Park, Illinois 60466

Phones (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

TO: MAECORP, Incorporated  
17450 South Halsted Street  
Homewood IL 60430

DATE: 10/13/87

ATTN: Mr. Fred Walker

RE: Proj# OH523 - Greiners Lagoon  
S-90B Hole 8 - PO# 23347-OH523  
Sample Date: 10/06/87  
Date Received: 10/07/87  
GCL Number: 114380

GCL #	PARAMETERS	ANALYST	RESULTS		
114380	PCBs, Total	bjw	2	mg/kg	d
114380	Aroclor 1016	bjw	< 5	mg/kg	d
114380	Aroclor 1221	bjw	< 5	mg/kg	d
114380	Aroclor 1242	bjw	< 5	mg/kg	d
.380	Aroclor 1248	bjw	< 5	mg/kg	d
114380	Aroclor 1254	bjw	2	mg/kg	d
114380	Aroclor 1260	bjw	< 5	mg/kg	d
114380	Solids, Total	bs	81.8	%	
114380	}Result is on a dry weight basis		d		

RECEIVED

OCT 15 1987

MAECORP  
INCORPORATED

Approved:

Ray Frederici

Date 10-14-87



GULF COAST LABORATORIES, INC.

2417 Bond St., University Park, Illinois 60466

Phones (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

TO: MAECORP, Incorporated  
17450 South Halsted Street  
Homewood IL 60430

DATE: 10/13/87

ATTN: Mr. Fred Walker

RE: Proj# OH523 - Greiners Lagoon  
S-83B Hole13 - PO# 23347-OH523  
Sample Date: 09/13/87  
Date Received: 10/07/87  
GCL Number: 114381

CCL #	PARAMETERS	ANALYST	RESULTS	
114381	PCBs, Total	bjw	< 1	mg/kg d
114381	Aroclor 1016	bjw	< 1	mg/kg d
114381	Aroclor 1221	bjw	< 1	mg/kg d
114381	Aroclor 1242	bjw	< 1	mg/kg d
114381	Aroclor 1248	bjw	< 1	mg/kg d
114381	Aroclor 1254	bjw	< 1	mg/kg d
114381	Aroclor 1260	bjw	< 1	mg/kg d
114381	Solids, Total	bs	82.6	%
114381	}Result is on a dry weight basis		d	

RECEIVED

OCT 15 1987

MAECORP  
INCORPORATED

Approved:

Ray Frederic

Date 10-14-87



GULF COAST LABORATORIES, INC.

2417 Bond St., University Park, Illinois 60466

Phones (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

TO: MAECORP, Incorporated  
17450 South Halsted Street  
Homewood IL 60430

DATE: 10/13/87

ATTN: Mr. Fred Walker

RE: Proj# OH523 - Greiners Lagoon  
S-74B Hole11 - PO# 23347-OH523  
Sample Date: 09/13/87  
Date Received: 10/07/87  
GCL Number: 114382

OCL #	PARAMETERS	ANALYST	RESULTS		
114382	PCBs, Total	bjw	< 10	mg/kg	dP
114382	Aroclor 1016	bjw	< 1	mg/kg	dP
114382	Aroclor 1221	bjw	< 1	mg/kg	dP
114382	Aroclor 1242	bjw	< 1	mg/kg	dP
114382	Aroclor 1248	bjw	< 1	mg/kg	dP
114382	Aroclor 1254	bjw	< 10	mg/kg	dP
114382	Aroclor 1260	bjw	< 1	mg/kg	dP
114382	Solids, Total	bs	80.5	%	
114382	} Peaks present, don't appear to be PCBs		P		
114382	} Result is on a dry weight basis		d		

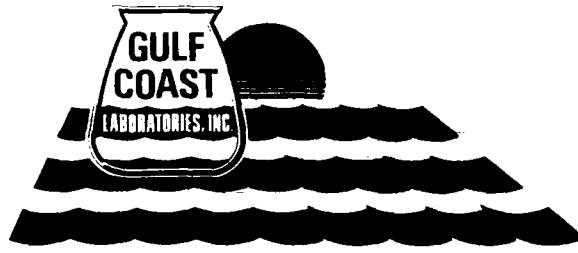
RECEIVED

OCT 15 1987

MAECORP  
INCORPORATED

Approved: Ray Frederici

Date 10-14-87



GULF COAST LABORATORIES, INC.

2417 Bond St., University Park, Illinois 60466

Phones (312) 534-5200 (219) 885-7077 (815) 723-7533

ANALYTICAL REPORT

TO: MAECORP, Incorporated  
17450 South Halsted Street  
Homewood IL 60430

DATE: 10/13/87

ATTN: Mr. Fred Walker

RE: Proj# OH523 - Greiners Lagoon  
S-65B Hole 7 - PO# 23347-OH523  
Sample Date: 09/12/87  
Date Received: 10/07/87  
GCL Number: 114383

OCL #	PARAMETERS	ANALYST	RESULTS		
114383	PCBs, Total	bjw	<	1	mg/kg d
114383	Aroclor 1016	bjw	<	1	mg/kg d
114383	Aroclor 1221	bjw	<	1	mg/kg d
114383	Aroclor 1242	bjw	<	1	mg/kg d
114383	Aroclor 1248	bjw	<	1	mg/kg d
114383	Aroclor 1254	bjw	<	1	mg/kg d
114383	Aroclor 1260	bjw	<	1	mg/kg d
114383	Solids, Total	bs		83.5	%
114383	}Result is on a dry weight basis			d	

RECEIVED  
OCT 15 1987

MAECORP  
INCORPORATED

Approved: Ray Frederici

Date 10-14-87

114514-8C

REGION 5  
Verborn Street  
Chicago, Illinois 60604

CHAIN OF

ODY RECORD

PROJ. NO.	PROJECT NAME				NO. OF CONTAINERS	Custody Seal #		
DHSa3	Greners Lagoon					38713	38714	
SAMPLERS: (Signature) Elise Allen					REMARKS			
STA. NO.	1987 DATE	TIME	COMP.	GRAB	STATION LOCATION	maecorp po# 23347-OHSA3		
S-89b	10/6	1110	X		5-10, 4' depth	1-8c3	X	Verbal to: Ed Rusk or Elise Allen by 1000 10/9/87
S-90b	10/6	1130	X		hole 8, 5' depth	1-8c3	X	419/992-4218
S-83b	9/13	1850	X		hole 13: 15-17'	1-16c3	X	
S-74b	9/13	1110	X		hole 11: 6-8'	1-16c3	X	
S-65b	9/12	1240	X		hole 7: 6-8'	1-16c3	X	
								Hand copy + QAQC to: Carl Emlund @maecorp 213 County Rd 181 Fremont, Ohio 43420
<b>RECEIVED</b>								QAQC + Results to: Freddie Walker MAECORP 17450 S. Halsted Homewood, IL 60430
OCT 15 1987								
MAECORP INCORPORATED								
Samples to Gulf Coast								
Relinquished by: (Signature) Elise Allen		Date / Time 10/6/87 1545	Received by: (Signature) 10/7/87 Sherri Scott		Relinquished by: (Signature)		Date / Time	Received by: (Signature)
Relinquished by: (Signature)		Date / Time	Received by: (Signature)		Relinquished by: (Signature)		Date / Time	Received by: (Signature)
Relinquished by: (Signature)		Date / Time	Received for Laboratory by: (Signature)		Date / Time	Remarks Bill to: MAECORP INC 17450 S. Halsted Homewood, IL 60430		



SHEET \_\_\_\_\_ of \_\_\_\_\_

CLIENT/SUBJECT \_\_\_\_\_ W.O. NO. \_\_\_\_\_

ASK DESCRIPTION \_\_\_\_\_ TASK NO. \_\_\_\_\_

PREPARED BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

MATH CHECK BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

METHOD REV. BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED BY

DEPT \_\_\_\_\_ DATE \_\_\_\_\_

Greiner Samples onsite

1-64

68-73

77-82

84

88

paint stuff

Greiner Samples in Cleveland Office

5-86, 87

**WESTON**  
MANAGERS DESIGNERS/CONSULTANTS

SHEET \_\_\_\_\_ of \_\_\_\_\_

CLIENT/SUBJECT \_\_\_\_\_ W.O. NO. \_\_\_\_\_

TASK DESCRIPTION \_\_\_\_\_ TASK NO. \_\_\_\_\_

PREPARED BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_ APPROVED BY \_\_\_\_\_

MATH CHECK BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

METHOD REV. BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

Don Gippe : Gulf Coast

OHSA

S-89b                    dry weight  
                          13 mg/kg                    ?                    1254

S-90b                    2 mg/kg

0                         S-83b                    <1

11                      74                        <10 (peaks  
                          that don't really  
                          look like PCBs) do <1

7                        S-65b                    <1

Received

0                        10/10/87 by E Allen

**WESTON**  
MANAGERS DESIGNERS/CONSULTANTS

SHEET \_\_\_\_\_ of \_\_\_\_\_

CLIENT/SUBJECT \_\_\_\_\_ W.O. NO. \_\_\_\_\_

TASK DESCRIPTION \_\_\_\_\_ TASK NO. \_\_\_\_\_

REARED BY _____	DEPT _____	DATE _____	APPROVED BY _____
MATH CHECK BY _____	DEPT _____	DATE _____	
METHOD REV. BY _____	DEPT _____	DATE _____	DEPT _____ DATE _____

Tim Levey - original samples '84-85  
 was hot up to 250 (190-140 Aug) of 1254  
 - now NDs &



Check chromatographs

- resolution
- dilution calcs
- any major peaks
- high background

- Mary Stephens
- Thessa Custer



**WESTON**  
MANAGERS DESIGNERS/CONSULTANTS

SHEET \_\_\_\_\_ of \_\_\_\_\_

CLIENT/SUBJECT \_\_\_\_\_ W.O. NO. \_\_\_\_\_

TASK DESCRIPTION \_\_\_\_\_ TASK NO. \_\_\_\_\_

PREPARED BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_ APPROVED BY \_\_\_\_\_

MATH CHECK BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

METHOD REV. BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

Wads. Testing Lab

10-9-87

Claudia Schaffner

1010

S-89 A

Found

Detection Limit

1254	ND	3
1260	"	3
1221	"	8
all others	"	1

S-90 A

1254	ND	2
1260	"	2
1221	"	15
all others	"	1

Tried 1% more cleanup but  
can't go any lower

DK

VERIFIED/REVIEWED

10/1 + 10/2/87

SHEET \_\_\_\_\_ of \_\_\_\_\_

CLIENT/SUBJECT	Sample results		W.O. NO.
TASK DESCRIPTION	from ERG		TASK NO.
PREPARED BY	DEPT	DATE	APPROVED BY
MATH CHECK BY	DEPT	DATE	
METHOD REV. BY	DEPT	DATE	

	S-85	S-86	S-87
Cadmium	12 mg/kg	1.4	7.3
Bromium	50	16	31
Copper	290	14	46
Iron	1000	13,000	11,000
Magnesium	200	10,000	9600
Manganese	39	260	190
Nickel	20	18	18
Lead	87	5.8	63
Thallium	5.0	<48	<50
Vanadium	2.2	17	18
Zinc	2100	49	160
Cobalt	0.61	6.0	4.2
Potassium	42	690	640
Silver	0.64	.4	1.8
Aluminum	380	5000	5200
Barium	11	28	3400
Beryllium	40.10	40.95	<0.99
Calcium	16,000	29000	39,000
Antimony	<1.2	<11	<12
ethylhexylphthalate	25,000 ppm	4.7	—
di-n-octyl phthalate	1,500 ppm	0.48	—
phenol	2,200 ppm	—	16.



SHEET \_\_\_\_ of \_\_\_\_

CLIENT/SUBJECT \_\_\_\_\_ W.O. NO. \_\_\_\_\_

TASK DESCRIPTION \_\_\_\_\_ TASK NO. \_\_\_\_\_

PREPARED BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_ APPROVED BY \_\_\_\_\_

MATH CHECK BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

METHOD REV. BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

Verbal results received 9/22/87  
from Wadsworth Alert (Bob Petros)

S-63	NO
-64	"
-65	"
-66	"
-67	"
-68	"
-69	"
-70	"
-71	"
-72	"
-73	"
-74	→ LDL @ 18mg/kg, matrix interference - ND
-75	ND
-76	"
-77	"
-78	"
-79	"
-80	"
-81	"
-82	"
-83	"
-84	"

CLIENT/SUBJECT	W.O. NO.		
TASK DESCRIPTION	TASK NO.		
PREPARED BY	DEPT.	DATE	APPROVED BY
MATH CHECK BY	DEPT.	DATE	
METHOD REV. BY	DEPT.	DATE	DEPT. DATE

## Greiners Lagoon Extent & Contamination Study Sampling Plan

### 1. Purpose

To define the extent of contamination on the surface of the lagoons and the depth to which the contamination extends. The following areas will be addressed separately in the Sampling Plan due to their different nature of exposure:

- 1) Surface area of lagoon 4;
- 2) Overflow ditch on the northern and western boundaries of the site;
- 3) Area immediately adjacent to two storage tanks on the eastern side;
- 4) Surface area of lagoons 1&2;
- 5) Along the drainage ditch on the eastern border;
- 6) Depth of contaminated material under the cap of lagoon 4;
- 7) Depth of contamination underneath lagoons 1&2;
- 8) Depth of contamination in the sludge and soil underneath lagoon 3 (after dewatering activities)

### 2. Methodology

#### a. Collection procedures

1) The Greiners Lagoon Site Safety Plan requires a minimum of Level C protection. During sampling operations, a clean pair of disposable sampling gloves will be used for each sample.

CLIENT/SUBJECT \_\_\_\_\_ W.O. NO. \_\_\_\_\_

TASK DESCRIPTION \_\_\_\_\_ TASK NO. \_\_\_\_\_

PREPARED BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_ APPROVED BY \_\_\_\_\_

MATH CHECK BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

METHOD REV. BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

taken.

- a) Clean 8oz /6oz , glass, wide mouth jars with teflon lined lids, will be used for every sample.
- b) A clean disposable wooden sampling Spatulas will be used for each sample taken.
- c) Sample bottles will be wiped down after collection with distilled water and soap, hexane rinse and a distilled water rinse.

### B. Surface Sample Locations

1) ~~Sample~~ Lagoon 4 : a grid will be laid on top of the lagoon 4 area and samples will be taken at intervals set by the grid. Several random samples will be taken in areas that appear to have obvious contamination. Because lagoon 4 was capped with clay, the grid will only measure \_\_\_\_\_ by \_\_\_\_\_ with samples every \_\_\_\_\_ feet.

2) Lagoons 1 + 2: A grid will be laid on top of the two lagoons and samples will be taken at intervals set by the grid. Several random samples will also be taken in areas that appear to have obvious contamination. These lagoons were filled in with material obtained locally and not capped w/Clay, thus there may be some upward migration of material if the fill material used was

CLIENT/SUBJECT \_\_\_\_\_ W.O. NO. \_\_\_\_\_

TASK DESCRIPTION \_\_\_\_\_ TASK NO. \_\_\_\_\_

PREPARED BY _____	DEPT _____	DATE _____	APPROVED BY _____
MATH CHECK BY _____	DEPT _____	DATE _____	
METHOD REV. BY _____	DEPT _____	DATE _____	DEPT _____ DATE _____

for displacement not absorbency.

- 3) Overflow ditches: Samples will be taken every 100 feet along the ditches. This area is visibly contaminated due to overflow of contaminated oil out of the lagoons.
- ④ Around the tanks; samples will be taken every — feet in five foot rings around the tanks. There is ~~some~~ visible contamination in the tank area.
- ⑤ Drainage Ditches: Samples will be taken every 100 feet along the drainage ditch on the eastern border of the site, and several random samples may be taken in areas of obvious contamination.

CLIENT/SUBJECT \_\_\_\_\_ W.O. NO. \_\_\_\_\_

TASK DESCRIPTION \_\_\_\_\_ TASK NO. \_\_\_\_\_

PREPARED BY _____	DEPT _____	DATE _____	APPROVED BY _____
MATH CHECK BY _____	DEPT _____	DATE _____	
METHOD REV. BY _____	DEPT _____	DATE _____	DEPT _____ DATE _____

Soil samples: Verbal results: 9/18/87 B. Peters

S-1	ND	S-34	ND
-7	ND	-35	ND
-3	ND	-36	ND
-4	ND	-37	ND
-5	ND	-38	ND
-6	ND	-39	ND
-7	ND	-40	ND
-8	ND	-41	11 mg/kg 1260
-9	ND	-42	ND
-10	ND	-43	ND
-11	ND	-44	ND
-12	ND	-45	1 mg/kg 1260
-13	ND	-46	ND
-14	ND	-47	ND
-5	ND	-48	ND
-16	ND	-49	ND
-17	ND	-50	ND
-18	ND	-51	* 6 mg/kg 1260
-9	ND		
-20	ND		
-21	cancelled		
-22	cancelled		
-23	ND		
-24	ND		
-25	ND		
-26	ND		
-27	ND		
-28	ND	* 10 mg/kg 1260	
-29	ND		
-30	* 5 mg/kg 1260		
-31	ND		
-32	ND		
-33	ND		

ENVIRONN

L PROTECTION AGENCY  
of EnforcementF N 5  
230 South Hurborn Street  
Chicago, Illinois 60604

## CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME					NO. OF CONTAINERS	PCBs					REMARKS <i>maecorp PO # 22887- OH523</i>
04-523	Greiners Lagoon						1					
SAMPLERS: (Signature) <i>Elise Allen</i>					2							
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION							
S-01	8/30	1604		X	Lagoon 4 S400, W30		1-803		X		RESULTS + QA/QC TO: FREDDIE WALKER	
S-02	8/30	1607		X	Lagoon 4 S300, W30		1-802		X		C/o MAECORP	
S-03	8/30	1610		X	Lagoon 4 S200, W30		1-802		X		17450 S. HALSTED	
S-04	8/30	1614		X	Lagoon 4 S100, W30		1-802		X		HOMEWOOD, IL 60430	
S-05	8/30	1617		X	Lagoon 4 S0, W30		1-802		X		"	
S-06	8/30	1540		X	Lagoon 4 S400, W130		1-802		X		RESULTS TO: DEANNE GEILE	
S-07	8/30	1545		X	Lagoon 4 S300, W130		1-802		X		C/o HOLIDAY INN FREMONT	
S-08	8/30	1600		X	Lagoon 4 S200, W130		1-802		X		3422 N. STATE BLVD FREMONT, OH 43420	
S-09	8/30	1605		X	Lagoon 4 S100, W130		1-802		X		RESULTS TO: DEANNE GEILE	
S-10	8/30	1608		X	Lagoon 4 S0, W130		1-802		X		C/o HOLIDAY INN FREMONT	
S-11	8/30	1550		X	Lagoon 4 S400, W230		1-802		X		3422 N. STATE BLVD FREMONT, OH 43420	
S-12	8/30	1555		X	Lagoon 4 S300, W230		1-802		X		RESULTS TO: Elise Allen 1-526-2484	
S-13	8/30	1600		X	Lagoon 4 S200, W230		1-802		X		RESULTS TO: Elise Allen 1-526-2484	
S-14	8/30	1605		X	Lagoon 4 S100, W230		1-802		X		RESULTS TO: Elise Allen 1-526-2484	
S-15	8/30	1610		X	Lagoon 4 S0, W230		1-802		X		RESULTS TO: Elise Allen 1-526-2484	
Relinquished by: (Signature) <i>Elise E Allen</i>		Date / Time	Received by: (Signature)			Relinquished by: (Signature)		Date / Time	Received by: (Signature)			
Relinquished by: (Signature)		Date / Time	Received by: (Signature)			Relinquished by: (Signature)		Date / Time	Received by: (Signature)			
Relinquished by: (Signature)		Date / Time	Received for Laboratory by: (Signature) <i>Robert Walker</i>			Date / Time	Remarks B.II TO: MAECORP 17450 S. HALSTED HOMEWOOD, IL 60430					

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5- 21999

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME					NO. OF CONTAINERS	REMARKS
OH-523	Greiners Lagoon						PCBS - Pending X/10
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION		
S-16	8/30	1540	X		Lagoon 4 S 400, W 305	1-8oz	X
S-17	8/30	1545	X		Lagoon 4 S 300, W 305	1-8oz	X
S-18	8/30	1550	X		Lagoon 4 S 200, W 305	1-8oz	X
S-19	8/30	1600	X		Lagoon 4 S 100, W 305	1-8oz	X
S-20	8/30	1605	X		Lagoon 4 S 0, W 305	1-8oz	X
S-21	<u>Cancelled</u>						
S-22	<u>Cancelled</u>						
S-23	8/30	1610	X		Lagoon 4 Random	1-8oz	X
S-24	8/30	1620	X		Lagoon 4 Random	1-8oz	X
S-25	8/30	1633	X		E. Ditch 0'	1-8oz	X
S-26	8/30	1630	X		E. Ditch 100'	1-8oz	X
S-27	8/30	1628	X		E. Ditch 200'	1-8oz	X
S-28	8/30	1633	X		E. Ditch 300'	1-8oz	X
S-29	8/30	1640	X		E. Ditch 400'	1-8oz	X
S-30	8/30	1640	X		E. Ditch ~400' oily sludge	1-8oz	X
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)		
<u>Elise E Allen</u>							
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)		
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	B.11 to MAECORP INC 17450 S. Halsted Homewood, IL 60430		
		<u>Robert Donahue</u>	9/3/87 5:15 PM				

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5- 14925

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME		NO. OF CONTAINERS	Chain of Custody										REMARKS				
0H523	Greiners Lagoon			PCBs - 1 ppm detect														
SAMPLERS: (Signature)		Elise E Allen																
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION													
S-31	9/2	1645		X	Lagoon 3 35'w baseline		1-8oz	X										
S-32	9/2	1649		X	Lagoon 3 S. berm 130'w		1-8oz	X										
S-33	9/2	1654		X	Up S-32		1-8oz	X										
S-34	9/2	1657		X	Lagoon 3 S. berm 230'w		1-8oz	X										
S-35	9/2	1700		X	Lagoon 3 S. berm 305'w		1-8oz	X										
S-36	9/2	1705		X	Lagoon 4 Random		1-8oz	X										
S-37	9/3	1055		X	W Border 100' S		1-8oz	X										
S-38	9/3	1050		X	W Border 200' S		1-8oz	X										
S-39	9/3	1047		X	W Border 2300' S		1-8oz	X										
S-40	9/3	1042		X	W Border 2400' S		1-8oz	X										
S-41	9/3	1055		X	W Border 300's 25'E		1-8oz	X										
S-42	9/3	1050		X	W Border 300's 25'E		1-8oz	X										
S-43	9/3	1047		X	W Border 300's 25'E		1-8oz	X										
S-44	9/3	1042		X	W Border 300's 25'E		1-8oz	X										
S-45	9/3	1106		X	N ditch 0'		1-8oz	X										
Relinquished by: (Signature)			Date / Time		Received by: (Signature)		Relinquished by: (Signature)			Date / Time		Received by: (Signature)						
Elise E Allen																		
Relinquished by: (Signature)			Date / Time		Received by: (Signature)		Relinquished by: (Signature)			Date / Time		Received by: (Signature)						
Relinquished by: (Signature)			Date / Time		Received for Laboratory by: (Signature)		Date / Time		Remarks									
					Alexander Dugay		9/3/87 5pm		Bill to MECORP INC 17450 g, selected Homewood, IL 60430									

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5-21994

## **CHAIN OF CUSTODY RECORD**

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

Remarks Bill do:  
MACCORP  
17450 S. Halsted  
Hawthorne, IL 60430

5-21996



ENVIRONM. PROTECTION AGENCY  
Office of Enforcement

F N 5  
230 South Dearborn Street  
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME				NO. OF CONTAINERS	Custody Seals						REMARKS
OH523	Greiners Lagoon						RCB5	19pm				
SAMPLERS: (Signature)												
Billy E. Miles												
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION							
S-63	9/12/83	1240		X	Hole 6: 6'-8'	1-16oz	X					
S-64	9/12/83	1455		X	Hole 7: 3-5'	1-16oz	X					Results to Freddy Walter MAECORP (Below)
S-65	9/12/83	1510		X	Hole 7: 6-8'	1-16oz	X					
S-66	9/12/83	1725		X	Hole 8: 3-5'	1-16oz	X					
S-67	9/12/83	1730		X	Hole 8: 6-8'	1-16oz	X					
S-68	9/12/83	1745		X	Hole 8: 8-10'	1-16oz	X					Vernals to Deanne Geile 419/992-4217
S-69	9/12/83	1805		X	Hole 9: 3-5'	1-16oz	X					
S-70	9/12/83	1815		X	Hole 9: 6-8'	1-16oz	X					
S-71	9/12/83	1820		X	Hole 9: 8-10'	1-16oz	X					
S-72	9/13/83	0940		X	Hole 10: 3-5'	1-16oz	X					
S-73	9/13/83	1100		X	Hole 11: 3-5'	1-16oz	X					
S-74	9/13/83	1110		X	Hole 11: 6'-8'	1-16oz	X					
S-75	9/13/83	1120		X	Hole 11: 9-11'	1-16oz	X					
S-76	9/13/83	1345		X	Hole 11: 12-14'	1-16oz	X					
S-77	9/13/83	1350		X	Hole 12: 11: 14-16'	1-16oz	X					
Relinquished by: (Signature)		Date / Time	Received by: (Signature)		Relinquished by: (Signature)		Date / Time	Received by: (Signature)				
Elise E. Miles		9/13/83 1545										
Relinquished by: (Signature)		Date / Time	Received by: (Signature)		Relinquished by: (Signature)		Date / Time	Received by: (Signature)				
Relinquished by: (Signature)		Date / Time	Received for Laboratory by: (Signature)		Date / Time	Remarks						
						Bill to MAECORP 17450 Halsted ST Homewood, IL 60430						

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

F 21007

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME					NO. OF CONTAINERS	PCBS / 1 PPM DEP					REMARKS
OH523	Greiners Lagoon											
SAMPLERS: (Signature)												
Billy E. Miles												
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION							
S-78	9/13/87	1615	X		Hole 12: 5-7'	1-16oz	X					
S-79	9/13/87	1650	X		Hole 13: 5-7'	1-16oz	X					
S-80	9/13/87	1700	X		Hole 13: 8-10'	1-16oz	X					CUSTODY SEAL #
S-81	9/13/87	1830	X		Hole 13: 10-12'	1-16oz	X					34761
S-82	9/13/87	1840	X		Hole 13: 13'-15'	1-16oz	X					34762
S-83	9/13/87	1850	X		Hole 13: 15-17'	1-16oz	X					
S-84	9/13/87	1900	X		Hole 13: 17'-19'	1-16oz	X					Results + QA/OC to Freddie Walker MAECORP
<b>VERBALS TO:</b> DEANNE GEILE 419/992-4218												
Relinquished by: (Signature)		Date / Time	Received by: (Signature)			Relinquished by: (Signature)		Date / Time	Received by: (Signature)			
Elmo E. Miles		9/16/87 1525										
Relinquished by: (Signature)		Date / Time	Received by: (Signature)			Relinquished by: (Signature)		Date / Time	Received by: (Signature)			
Relinquished by: (Signature)		Date / Time	Received for Laboratory by: (Signature)			Date / Time			Remarks			
									Bill to MAECORP INC 17450 Halsted ST Homewood, IL 60430			

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

ENVIRONML - PROTECTION AGENCY  
Office of Enforcement

R N 5  
230 South Dearborn Street  
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME				NO. OF CONTAINERS	PCBS Lagoon					Custody Seal #	
OH523	Greiners Lagoon											34775
SAMPLERS: (Signature)	Elise Allen											34767
STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	1-Bag	X					REMARKS
S-85	9/24	1100		X	East Lagoon							maecorp PO # Q3207-OH523
												Results + QA/QC to: FREDDIE WALKER maecorp 17450 S. Halsted Homewood, IL 60430
												Verbal + Handcopy Results to: Deanne Glile 213 County Rd 181 Elmwood, Ohio 43420 419/992-4217
												<i>Samples to Wadsworth</i>
Relinquished by: (Signature)		Date / Time	Received by: (Signature)			Relinquished by: (Signature)			Date / Time	Received by: (Signature)		
Elise Allen		9/24/87 1600										
Relinquished by: (Signature)		Date / Time	Received by: (Signature)			Relinquished by: (Signature)			Date / Time	Received by: (Signature)		
Relinquished by: (Signature)		Date / Time	Received for Laboratory by: (Signature)			Date / Time			Remarks Bill to: maecorp inc 17450 S. Halsted Homewood, IL 60430			

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

**ENVIRONMENTAL PROTECTION AGENCY**  
**U.S. Office of Enforcement**

## **CHAIN OF CUSTODY RECORD**

IN 5  
230 South Dearborn Street  
Chicago, Illinois 60604

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5-14926

## **CHAIN OF CUSTODY RECORD**

PROJ. NO.		PROJECT NAME				NO. OF CON- TAINERS	SAMPLES RECEIVED RECORD					REMARKS	
SAMPLERS: (Signature)							H.C.D.						
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION								
E. 17.10.				X	Shank Aggron. 3	16kg	X						
<i>Sample already at ERG. (Paperwork pending)</i>													
Relinquished by: (Signature)		Date / Time	Received by: (Signature)			Relinquished by: (Signature)		Date / Time	Received by: (Signature)				
Relinquished by: (Signature)		Date / Time	Received by: (Signature)			Relinquished by: (Signature)		Date / Time	Received by: (Signature)				
Relinquished by: (Signature)		Date / Time	Received for Laboratory by: (Signature)			Date / Time		Remarks					

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5 - 11926

CHAIN OF CUSTODY RECORD

REGION 5  
230 South Dearborn Street  
Chicago, Illinois 60604

PROJ. NO.	PROJECT NAME					NO. OF CONTAINERS	CUSTODY SEAL #S			
OH 523	Greiness Lagoon						1	2	3	4
SAMPLERS: (Signature)										
Elaine E. Allen										
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION					REMARKS
5-85	9/24/87	1100	X		Southern Sludges	2-16g	X	X		MAECORP PO# 2397-011523
										Results + QA/QC To: Freddie Walker 17450 S. Halsted St. Homewood, IL 60430
										Verbal + hard copy to: Deanne Geile c/o MAECORP 213 County Rd 181 Flemont, Ohio 43420 419/992-4217
										Sampled to: ERG in Ann Arbor
Relinquished by: (Signature)	Date / Time	Received by: (Signature)			Relinquished by: (Signature)	Date / Time	Received by: (Signature)			
Elaine Allen	9/24/87 1500									
Relinquished by: (Signature)	Date / Time	Received by: (Signature)			Relinquished by: (Signature)	Date / Time	Received by: (Signature)			
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)			Date / Time	Remarks: B.II to: MAECORP INC 17450 S. Halsted Homewood, IL 60430				

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5-14957

## **CHAIN OF CUSTODY RECORD**

PROJ. NO.		PROJECT NAME				NO. OF CONTAINERS	MAECORP 10-23197-01f			
OH523		GRINGER'S LAGOON					Acid / BASE / NEUTRAL			
SAMPLERS: (Signature)		<i>David Rechel</i>					HSI METALS			
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION				REMARKS	
S-86	9/24/87		X		Comp. S-16 & S-67	2	16oz	X	X	CUSTODY SEAL *34788
S-87	9/24/87		X		Comp. S-75 & S-76	2	16oz	X	X	
										RESULTS + QA/QC TO:
										FREDDY WALKER MAECORP, INC 17450 S. HALSTED HOMWOOD, IL 60430
										VERBAL + HARD COPY TO:
										DEANNE GEILE 213 COUNTY ROAD 181 FREMONT, OH 43420 (419) 992-4218
										SAMPLES TO: EPG, ANN ARBOR, MI
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)
<i>D. Hartman</i>		9-24-87 1645								
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)
Relinquished by: (Signature)		Date / Time		Received for Laboratory by: (Signature)		Date / Time		Remarks BILL TO: MAECORP, INC 17450 S. HALSTED HOMWOOD, IL 60430		

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME					Custody Seal #						
OHSa3	Greners (agron)					38713						
SAMPLERS: (Signature) Elise Allen						38714						
STA. NO.	DATE	TIME	COM	GRAB	STATION LOCATION	NO. OF CONTAINERS	PCBn-1Ppb					REMARKS
S-89b	10/6	1110	X		S-10, 4' depth trench	1-8cg	X					Verbal to: Ed Buck or Elise Allen
S-90b	10/6	1130	X		Hole 8, 5' depth trench	1-8cg	X					by 1000 10/9/87
S-83b	9/13	1850	X		Hole 13: 15-17'	1-16cg	X					419/992-4218
S-79b	9/13	1110	X		Hole 11: 6-8'	1-16cg	X					
S-65b	9/12	1040	X		Hole 7: 6-8"	1-16cg	X					
												Hand copy + QAQC to: Carl Emlund c/o maecorp 213 County Rd 181 Fremont, OH 43420
												QAQC + Results to: Freddie Walker maecorp 17450 S. Halsted Homewood, IL 60430
Samples to: GWS Coagx												
Relinquished by: (Signature) Elise Allen		Date / Time 10/6/87 1545	Received by: (Signature)			Relinquished by: (Signature)			Date / Time	Received by: (Signature)		
Relinquished by: (Signature)		Date / Time	Received by: (Signature)			Relinquished by: (Signature)			Date / Time	Received by: (Signature)		
Relinquished by: (Signature)		Date / Time	Received for Laboratory by: (Signature)			Date / Time			Remarks Bill to: maecorp INC 17450 S. Halsted Homewood, IL 60430			

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME					NO. OF CONTAINERS	REMARKS	
OH523	Guinever Lagoon							
SAMPLERS: (Signature) Elise, Ed Allen								
STA. NO.	1987 DATE	TIME	COMP.	GRAB	STATION LOCATION		MAECORP PO# 23346- OH523	
S-89a	10/6	1110	X		S-10, 4' down	1-8oz X	Verbal to: Ed Busk or Elise Allen 419/992-4218	
S-90a	10/6	1130	X		Site 8, 5' down	1-8oz X		
							Hard copy w/ QAQC to: Carl <del>Em</del> Emlund 213 County Rd 181 Fremont, Ohio 43420	
							QA/QC + Results to: FREDDIE WALKER MAECORP (Below)	
<i>5 samples to Ed Allen</i>								
Relinquished by: (Signature) Elise Allen		Date / Time 10/6/87 1500	Received by: (Signature)		Relinquished by: (Signature)		Date / Time	Received by: (Signature)
Relinquished by: (Signature)		Date / Time	Received by: (Signature)		Relinquished by: (Signature)		Date / Time	Received by: (Signature)
Relinquished by: (Signature)		Date / Time	Received for Laboratory by: (Signature)		Date / Time	Remarks Bill to: MAECORP 17450 S. Halstead Homewood, IL		

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5-14927

CHAIN OF CUSTODY RECORD

Chain

PROJ. NO.	PROJECT NAME					NO. OF CONTAINERS	REMARKS					
OH523	Greiners Lagoon							MAECORP PO# 23605-OH523				
SAMPLERS: (Signature) Elise E. Allen							Custody Seal # 38732 38733					
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION							
S-101	10/26	1450	X		Lagoon 4, trench on hole 1	-8eg	X	Verbal to: Ed Buck or ELISE E ALLEN 419/992-4218				
S-102	10/26	1510	X		" , trench on hole 3	-8eg	X					
S-103	10/26	1530	X		" , trench w/ cgs-14	-8eg	X					
S-104	10/26	1440	X		" , trench on hole 6	-8eg	X					
S-105	10/26	1725	X		" , at S-5	-8eg	X	Hard copy + QA/QC to: ① Carl Emlund c/o MAECORP 213 County Rd 181 Fremont, OH 43420				
												② Freddie Walker 17450 S. Halsted Hawthorne, IL 60430
Shipped to G.I. of Connt Lab												
Relinquished by: (Signature) Elise E. Allen			Date / Time 10/27/87 1330	Received by: (Signature)			Relinquished by: (Signature)			Date / Time	Received by: (Signature)	
Relinquished by: (Signature)			Date / Time	Received by: (Signature)			Relinquished by: (Signature)			Date / Time	Received by: (Signature)	
Relinquished by: (Signature)			Date / Time	Received for Laboratory by: (Signature)			Date / Time	Remarks B,11 to: MAECORP, INC 17450 S. Halsted Hawthorne, IL 60430				

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5-14929

CHAIN OF CUSTODY RECORD

Chain of Custody

PROJ. NO.	PROJECT NAME				NO. OF CONTAINERS	REMARKS
OH523	Greens Lagoon					
STATION NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	
S-91	10/21	1700	X		NW corner #2 - oily area	1-Bag X
S-92	10/21	1715	X		On S-44	1-Bag X
S-93	10/21	1710	X		On S-41	1-Bag X
S-94	10/21	1705	X		On S-48	1-Bag X
S-95	10/21	1700	X		On S-49	1-Bag X
S-96	10/21	1420	X		Lagoon 3, oil, north bank	1-Bag X
S-97	10/21	1400	X		Lagoon 3, sludge, west	1-Bag X
S-98	10/21	1415	X		Lagoon 3, sludge, south	1-Bag X
S-99	10/21	1430	X		Lagoon 3, sludge, east	1-Bag X
S-100	10/21	1420	X		NE solidified sludge	1-Bag X
S-99a	10/25	1000	X		Lagoon 3, sludge, east	1-Bag X
<i>Shipped to Gulf Coast Labs</i>						
Relinquished by: (Signature)		Date / Time	Received by: (Signature)		Relinquished by: (Signature)	
Elise E Allen		10/27/82 1330				
Relinquished by: (Signature)		Date / Time	Received by: (Signature)		Relinquished by: (Signature)	
Relinquished by: (Signature)		Date / Time	Received for Laboratory by: (Signature)		Date / Time	Remarks
						BILL TO: MAECORP INC 17450 S. Halsted Homewood, IL 60430

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5-14932

Sender's Federal Express Account Number

1250-9788-8

Date

9/14/87

EX-57498



From (Your Name)	Elise Allen	Your Phone Number (Very Important)	419/334-2682
Department/Floor No.	1000	Date	9/14/87
Street Address	313 County Rd 181	Company (If no address enter or change, you will be advised to re-enter)	QUADSWORTH / ALERT / YAR
City	Tremont	State	OHIO

AIRBILL NO. 421594401

YOUR BILLING REFERENCE INFORMATION (FIRST 24 CHARACTERS WILL APPEAR ON INVOICE)

3 096201051125

PAYMENT  On Shipment  Cash  FedEx Acct. No.  Major Credit Card No.

091-12730

**SERVICES**  CHECK ONLY ONE BOX

**DELIVERY AND SPECIAL HANDLING**  
**CHECK SERVICES REQUIRED**

**Priority 1**  
Overnight Delivery   
Under Your Protection   
When Using ICAO regulations, please mark appropriate boxes).   
Do not mark for CFR 48.

**HOLD FOR PICK-UP** Give the Federal Express address where you want package held. In Route # of right. (Remember, this service is not available at Service Centers.)

**DELIVER IMMEDIATELY**

**DRIVER SATURDAY** (extra charge applies)

**Cargo Aircraft**   
Dangerous goods as per attached Dangerous Goods Transport Document

**STANDARD AIR**   
Delivery not later than second business day

**SERVICE COMMITMENT**

**PRIORITY 1** - Delivery is guaranteed, very limited business morning in most locations. It may take two or more business days until the destination is outside our primary service area. If the destination is "STANDARD AIR", delivery is generally next business day or not later than second business day. It may take three or more business days if the destination is outside our primary service area.

**CONSTANT SURVEILLANCE SERVICE (CSS)**

**DRY ICE**  Dry ice must be packed in a dry ice container.

**OTHER SPECIAL SERVICES**

**SATURDAY PICK-UP OR SATURDAY DROP-OFF** (extra charge applies)

**ZIP Code Required For Correct Invoicing**

43420

**HOLD FOR PICK-UP AT THIS FEDERAL EXPRESS STATION:**

Station Address (See Service Guide or Call 800-236-5362) State Zip

Suburb/zip or exact box no. and city name. State Zip

City State Zip

Federal Express User

State Charge

City Charge

Declared Value Charge

**ZIP Street Address Zip Required. A.D. Box Zip Code**

44701

**ZIP Code of Street Address Required**

For air distribution, add letter to ZIP code to indicate how many digits to use. Add letter to ZIP code to indicate how many digits to use.

State Zip

City State Zip

PLEASE PRINT OR TYPE

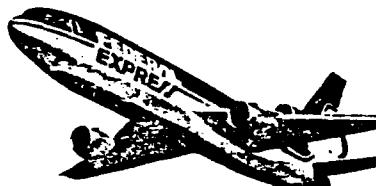
PLEASE COMPLETE ALL INFORMATION IN THE 5 BLOCKS OUTLINED IN ORANGE  
SEE BACK OF FORM SET FOR COMPLETE PREPARATION INSTRUCTIONS

321992785

YOUR FEDERAL EXPRESS ACCOUNT NUMBER		1250-9762-6
FROM (Your Name)	ELISE ALLEN	
DAVE HARTMAN	(419) 992-4218	DEPARTMENT/FLOOR NO.
COMPANY		
R. F. WESTON	1	
STREET ADDRESS	6642 HARRIS RD,	
CITY	BROADVIEW HEIGHTS	STATE
AIRBILL NO.	321992985	ZIP ACCURATE ZIP CODE REQUIRED FOR CORRECT INVOICING
PAYMENT	<input type="checkbox"/> Bill Shipper <input type="checkbox"/> Bill Recipient's F.C.C. <input type="checkbox"/> Bill 3rd Party F.E.C. Acct. <input type="checkbox"/> Bill Credit Card <input type="checkbox"/> Cash In Advance      Account Number/Credit Card Number: 0191-1273-0	

DATE	9-24-87	If Hold For Pick-Up or Saturday D
TO (Recipient's Name)	ROBIN WOOLEY	Recipient's Phone Number
COMPANY	ERG ANALYTICAL	DEPARTMENT/FLOOR NO.
STREET ADDRESS (P.O. BOX NUMBERS ARE NOT DELIVERABLE)	117 N. FIRST STREET	
CITY	ANN ARBOR	STATE
AIRBILL NO.	4411417	ZIP ACCURATE ZIP CODE REQUIRED FOR OVERNIGHT DELIVERY
IN TENDERING THIS SHIPMENT, SHIPPER AGREES THAT F.E.C. SHALL NOT BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM CARRIAGE HEREOF. F.E.C. DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THIS SHIPMENT. THIS IS A NON-NEGOTIABLE AIRBILL SUBJECT TO CONDITIONS OF CONTRACT SET FORTH ON REVERSE OF SHIPPER'S COPY. UNLESS YOU DECLARE A HIGHER VALUE, THE LIABILITY OF FEDERAL EXPRESS CORPORATION IS LIMITED TO \$100.00. FEDERAL EXPRESS DOES NOT CARRY CARGO LIABILITY INSURANCE.		
FEDERAL EXPRESS FREIGHT CHARGES DECLARED VALUE		
AGT/PRO	ADVANCE ORIGIN	
AGT/PRO	ADVANCE DESTINA	
OTHER		
TOTAL CHARGES		
PART #2041730761		
REVISION DATE 2/83 GBF		
PRINTED U.S.A.		

YOUR NOTES/REFERENCE NUMBERS (FIRST 12 CHARACTERS WILL ALSO APPEAR ON INVOICE)	
2962-01-51-1175	
SERVICES CHECK ONLY ONE BOX	DELIVERY AND SPECIAL HANDLING CHECK SERVICES REQUIRED
PRIORITY 1 <input checked="" type="checkbox"/> OVERNIGHT PACKAGES (UP TO 70 LBS.)	1 <input type="checkbox"/> HOLD FOR PICK-UP AT FOLLOWING FEDERAL EXPRESS LOCATION SHOWN IN SERVICE GUIDE. RECIPIENT'S PHONE NUMBER IS REQUIRED. 2 <input type="checkbox"/> DELIVER 3 <input type="checkbox"/> SATURDAY SERVICE REQUIRED (See Reverse (Extra charge applies for delivery)) 4 <input checked="" type="checkbox"/> RESTRICTED ARTICLES SERVICE (P-1 and Standard Air Permitted only, extra charge) 5 <input type="checkbox"/> SSS (Signature Security Service required extra charge applies) 6 <input type="checkbox"/> DAY ICE _____ LBS 7 <input type="checkbox"/> OTHER SPECIAL SERVICE _____ 8 <input type="checkbox"/> 9 <input type="checkbox"/>
STANDARD AIR <input type="checkbox"/> DELIVERY AND BUSINESS DAY FOLLOWING PICK-UP (UP TO 70 LBS.)	ORM'S AND RADIOACTIVE MATERIAL ONLY
'OVERNIGHT' IS NEXT BUSINESS DAY (MONDAY THROUGH FRIDAY); TWO DAYS FROM ALASKA/HAWAII. SATURDAY DELIVERY AVAILABLE IN CONTINENTAL U.S. SEE 'SPECIAL HANDLING.'	
PACKAGES	
1	20
TOTAL	TOTAL
RECEIVED AT SHIPPER'S DOOR <input type="checkbox"/> REGULAR STOP <input type="checkbox"/> ON-CALL STOP <input type="checkbox"/> F.E.C. LOC.	
Federal Express Corporation Employee No.	
DATE/TIME For Federal Express Use	

AIRBILL NUMBER  
321992985SHIPPER'S CERTIFICATION FOR RESTRICTED ARTICLES  
(TYPE OR PRINT)

NO. OF PKGS.	PROPER SHIPPING NAME (PER 49 CFR, 172.101)	CLASSIFICATION	IDENTIFICATION NO.	NET QUANT PER PACKAGE
1	FLAMMABLE LIQ.	FLAMMABLE LIQ. NOS UN1993		64 OZ

ADDITIONAL DESCRIPTION REQUIREMENTS FOR  
RADIOACTIVE MATERIALS  
(SEE BACK)

DESCRIPTION	PACKAGING	CONTAINER	SHIPPING	CARRIER	CARRIER	TRANSPORT INDEX	PACKAGE IDENTIFICATION

THIS SHIPMENT IS WITHIN THE LIMITATIONS PRESCRIBED FOR

PASSENGER AIRCRAFT

CARGO AIRCRAFT ONLY

(DELETE-NONAPPLICABLE)

IF ACCEPTABLE FOR PASSENGER AIRCRAFT, THIS SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN, OR INC TO, RESEARCH, MEDICAL DIAGNOSIS OR TREATMENT.

I HEREBY CERTIFY THAT THE CONTENTS OF THIS CONSIGNMENT ARE FULLY AND ACCURATELY DESCRIBED ABOVE BY PRO SHIPPING NAME AND ARE CLASSIFIED, PACKED, MARKED, AND LABELED, AND IN PROPER CONDITION FOR CARRIAGE BY ACCORDING TO APPLICABLE NATIONAL GOVERNMENTAL REGULATIONS.

NAME AND TITLE OF PERSON SIGNING CERTIFICATION	EMERGENCY TELEPHONE NO.	SIGNATURE OF SHIPPER
Dave Hartman - OFFICE MANAGER	(216) 526-2484 W	R. Hartman
	(216) 666-8152 H	

**FEDERAL  
EXPRESS**

Sender's Federal Express Account Number

1250-9762-6

Date  
10/6/87

421154672



From (Your Name) <b>ELISE ALLEN</b>	Your Phone Number (Very Important) <b>49992-9218</b>
Co. <b>F. Weston</b>	Department/Floor No. <b>100</b>
Street Address <b>213 County Rd 181</b>	City <b>FREMONT</b>
State <b>OHIO</b>	ZIP *Zip Code Required For Correct Invoicing <b>43420</b>
CITY ZIP CODE <b>2962-11-05-1175</b>	
PAYMENT <input type="checkbox"/> Bill Shipper <input type="checkbox"/> Bill Recipient's FedEx Acct. No. <input checked="" type="checkbox"/> Be 3rd Party FedEx Acct. No. <input type="checkbox"/> Bill Credit Card <input type="checkbox"/> Check <input type="checkbox"/> Cash <input type="checkbox"/> FedEx Acct. No. or Major Credit Card No. <b>0190-18730</b>	

YOUR BILLING REFERENCE INFORMATION (FIRST 24 CHARACTERS WILL APPEAR ON INVOICE)

3 **2962-11-05-1175**PAYMENT  Bill Shipper  Bill Recipient's FedEx Acct. No.  Be 3rd Party FedEx Acct. No.  Bill Credit Card  Check  Cash  FedEx Acct. No. or Major Credit Card No. **0190-18730**

SERVICES CHECK ONLY ONE BOX		DELIVERY AND SPECIAL HANDLING CHECK SERVICES REQUIRED		
<b>PRIORITY 1</b> <input checked="" type="checkbox"/> Overnight Delivery <input type="checkbox"/> Using Your Packaging <input type="checkbox"/> When using ICAO regulations, Please mark appropriate box(es). <input type="checkbox"/> Do not mark for CFR 46.		<input type="checkbox"/> HOLD FOR PICK-UP Give the Federal Express address where you want package held in Section # at right (Restricted Articles service is not available at Business Service Centers). <input type="checkbox"/> DELIVER WEEKDAY <input type="checkbox"/> DELIVER SATURDAY (Extra charge applies)		
<b>STANDARD AIR</b> <input type="checkbox"/> Cargo Aircraft only <input type="checkbox"/> Dangerous goods as per attached Dangerous Goods Transport Document		<input checked="" type="checkbox"/> RESTRICTED ARTICLES SERVICE (P-1 and Standard Air Packages only. Extra charge applies) <input type="checkbox"/> CONSTANT SURVEILLANCE SERVICE (CSS) (Extra charge applies) <input type="checkbox"/> DRY ICE <input type="checkbox"/> OTHER SPECIAL SERVICE		
<b>SERVICE COMMITMENT</b> <small>PRIORITY 1 - Delivery is scheduled early next business morning in most locations. It may take two or more business days if the destination is outside our primary service area. STANDARD AIR - Delivery is generally next business day or not later than second business day. It may take three or more business days if the destination is outside our primary service area.</small>		<input type="checkbox"/> SATURDAY PICK-UP OR SATURDAY DROP-OFF (Extra charge applies)		

To (Recipient's Name) <b>Bob Peters</b>	Recipient's Phone Number (Very Important) <b>216459-5809</b>
Company <b>Wadsworth Labs</b>	Department/Floor No. <b>1600 FOURTH ST SE</b>
Exact Street Address (Use of P.O. Boxes or P.O. + Zip Codes Will Delay Delivery And Result in Extra Charge) <b>CANTON OHIO</b>	City <b>OHIO</b>
ZIP *Street Address Zip Required For Correct Invoicing <b>44701</b>	

HOLD FOR PICK-UP AT THIS FEDERAL EXPRESS STATION: Street Address (See Service Guide or Call 800-238-5355) Allowing the station to hold your package until you come to pick it up.	
City <b>Wadsworth</b>	
ZIP *Zip Code of Street Address Required <b>44701</b>	
EMPLOYEE NUMBER <b>22767</b>	
Emp. No.	Date
<input type="checkbox"/> Cash Received <input type="checkbox"/> Cash Paid <input type="checkbox"/> Partial Payment <input type="checkbox"/> Hold <input type="checkbox"/> Return Shipment <input type="checkbox"/> Hold <input type="checkbox"/> Hold To Del <input type="checkbox"/> Cdg. To Del <input type="checkbox"/> Cdg. To Hold <input type="checkbox"/> Third Party	
SHIPPER ADDRESS/NAME/TELEPHONE NUMBER <b>Elise Allen 49992-9218</b>	
CITY AIRPORT STATE ZIP <b>Wadsworth OH 44701</b>	
Total Charges <b>0.00</b>	
Date/Time For Federal Express Use <b>10-6-87</b>	Date/Time Received <b>X</b>
FedEx Employee Number <b>2041730761</b>	

PART #  
**2041730761**REVISION DATE 1/85  
PRINTED U.S.A. NCR

BILL NUMBER

**421154672**

## SHIPPER'S CERTIFICATION FOR RESTRICTED ARTICLES/DANGEROUS GOODS.

CHECK ONE  49 CFR  ICAO

(TYPE OR PRINT)

NO. OF UNITS	DANGEROUS GOODS IDENTIFICATION PROPER SHIPPING NAME	CLASS OR DIVISION	UN OR RISK NO.	SUBSIDIARY RISK	TOTAL NET QUANTITY	PACKING INSTRUCTIONS	AUTHORIZATION
1	Flammable Solid NOS	1.1	UN 1325	1.1	2.8kg NET	Limited Quantity	

ADDITIONAL  
DESCRIPTION  
REQUIREMENTS  
FOR  
RADIOACTIVE  
MATERIALS  
(SEE BACK)

RADIONUCLIDE	FORM	ACTIVITY	CATEGORY OF LABEL	TRAN. INDEX	PACKAGE IDENTIFICATION
			<input type="checkbox"/> WHITE I <input type="checkbox"/> YELLOW II <input type="checkbox"/> YELLOW III <input type="checkbox"/> NONE		

**CARGO ONLY**

TRANSPORT DETAILS	THIS SHIPMENT IS WITHIN THE LIMITATIONS PRESCRIBED FOR	PASSENGER AIRCRAFT	CARGO AIRCRAFT ONLY	(DELETE-NONAPPLICABLE)
-------------------	---	-----------------------	------------------------	------------------------

IF ACCEPTABLE FOR PASSENGER AIRCRAFT, THIS SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN, OR INCIDENT TO, RESEARCH, MEDICAL DIAGNOSIS OR TREATMENT.

BY DECLARE THAT THE CONTENTS OF THIS CONSIGNMENT ARE FULLY AND ACCURATELY DESCRIBED ABOVE BY PROPER  
ING NAME AND ARE CLASSIFIED, PACKED, MARKED, AND LABELED, AND ARE IN ALL RESPECTS IN PROPER CONDITION FOR  
TRANSPORT BY AIR ACCORDING TO THE APPLICABLE INTERNATIONAL AND NATIONAL GOVERNMENT REGULATIONS.

NAME AND TITLE OF SHIPPER

PLACE AND DATE

EMERGENCY TELEPHONE NUMBER

SIGNATURE OF SHIPPER

49/334-2682 X 228

Elise E Allen

10/6/87

SEE WARNING  
ON BACK

SHIPPER'S COPY

FEDERAL  
EXPRESS

Sender's Federal Express Account Number

1250-9762-6

Date

10/6/87

1 5 4

From (Your Name)	Your Phone Number (Very Important)
<b>ELISE ALLEN</b>	419-992-4218
Department/Floor No.	
Street Address	
213 County Rd 181	
Fremont	OHIO
URBILL NO.	421154661
ZIP *Zip Code Required For Correct Invoicing	43420

To (Recipient's Name)	Recipient's Phone Number (Very Important)
<b>Linda Mackay</b>	(313) 534-5200
Company	
2417 Board St	Gulf Coast LAB
City	
University Park, IL	
ZIP *Zip Code Required For Correct Invoicing	(604) 626

YOUR BILLING REFERENCE INFORMATION (FIRST 24 CHARACTERS WILL APPEAR ON INVOICE.)  
**2962-11-05-175**

PAYMENT  Gas Shop  Bill Recipient's FedEx Acct. No.  Bill 3rd Party FedEx Acct. No.  Bill Credit Card  
 Fill in line below.  Fill in line below.  Fill in line below.

FedEx Acct. No. or Major Credit Card No. **190-15730**

SERVICES  CHECK ONLY ONE BOX

**PRIORITY 1**

Overnight Delivery  
Using Your Packaging  
When using ICAO regulations,  
please mark appropriate box(es).  
Do not mark for CFR 48.

Cargo Aircraft Only  
 Dangerous Goods as per  
attached Dangerous Goods  
Transport Document

Delivery not later than  
second business day

Standard Air

Delivery scheduled early next  
business morning in most locations. It may take  
two or more business days if the destination is  
outside our primary service areas.

Standard Air

Delivery not later than  
second business day

Service Commitment

PRIORITY 1 - Delivery is scheduled early next  
business morning in most locations. It may take  
two or more business days if the destination is  
outside our primary service areas.

STANDARD AIR

Delivery not later than  
second business day

Service Commitment

**DELIVERY AND SPECIAL HANDLING  
CHECK SERVICES REQUIRED**

1  HOLD FOR PICK-UP Give the Federal  
Express address where you want package  
held in Section H at right (Restricted Articles  
hold service is not available at Business  
Service Centers).

2  DELIVER WEEKDAY

3  DELIVER SATURDAY (Extra charge applies)

4  RESTRICTED ARTICLES SERVICE (P-1 and  
Selected Air Packages only. Extra charge applies)

5  CONSTANT SURVEILLANCE SERVICE (CSS)  
(Extra charge applies)

6  DAY ICE \_\_\_\_\_

7  OTHER SPECIAL SERVICE

8

9  SATURDAY PICK-UP OR SATURDAY DROP-OFF  
(Extra charge applies)

**PACKAGES**

**WEIGHT**

**YOUR DECLARED  
VALUE  
(See Right)**

**OVER  
SIZE**

**Total**

**Total**

**Total**

**PER DAY**

**HOURS**

**WT**

**Received At**

Shipper's Door

Regular Stop

On-Call Stop

FedEx Loc

Federal Express Corp. Employee No.

22917

Date/Time For Federal Express Use

10/6/87

**CHECK FOR  
PICK-UP AT THIS FEDERAL EXPRESS STATION:**

**GREAT ADDRESS (See Service Guide or Call 800-238-5355)**

100416

**CITY**

CHICAGO, IL

**STATE**

IL

**ZIP CODE**

60616

**FEDERAL EXPRESS USE**

Base Charges

Declared Value Charge

Origin Agent Charge

Other

Total Charges

PART #

2041730761

REVISION DATE 1/85

PRINTED U.S.A. NCR

BILL NUMBER  
**421154661**

**SHIPPER'S CERTIFICATION FOR RESTRICTED ARTICLES/DANGEROUS GOODS**

CHECK ONE  49 CFR  ICAO

(TYPE OR PRINT)

NO. OF PKGS.	DANGEROUS GOODS IDENTIFICATION	TOTAL NET QUANTITY	PACKING INSTRUCTIONS	AUTHORIZATION
1	PROPER SHIPPING NAME	UN 1325	2-8 signs 3-1603 signs	

ADDITIONAL  
DESCRIPTION  
REQUIREMENTS  
FOR  
RADIOACTIVE  
MATERIALS  
(SEE BACK)

RADIOMUCLE	FORM	ACTIVITY	CATEGORY OF LABEL	TRANS. INDEX	PACKAGE IDENTIFICATION
			<input type="checkbox"/> WHITE I <input type="checkbox"/> YELLOW UN I <input type="checkbox"/> YELLOW III <input type="checkbox"/> NONE		

TRANSPORT DETAILS

THIS SHIPMENT IS WITHIN THE LIMITATIONS PRESCRIBED FOR

PASSENGER AIRCRAFT

CARGO AIRCRAFT ONLY

(DELETE-NONAPPLICABLE)

AIRPORT OF DEPARTURE

AIRPORT OF DESTINATION

SHIPMENT TYPE

NON-RADIOACTIVE

RADIOACTIVE

(DELETE-NONAPPLICABLE)

IF ACCEPTABLE FOR PASSENGER AIRCRAFT, THIS SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN, OR INCIDENT TO, RESEARCH, MEDICAL DIAGNOSIS OR TREATMENT.

I HEREBY DECLARE THAT THE CONTENTS OF THIS CONSIGNMENT ARE FULLY AND ACCURATELY DESCRIBED ABOVE BY PROPER SHIPPING NAME AND ARE CLASSIFIED, PACKED, MARKED, AND LABELED, AND ARE IN ALL RESPECTS IN PROPER CONDITION FOR TRANSPORT BY AIR ACCORDING TO THE APPLICABLE INTERNATIONAL AND NATIONAL GOVERNMENT REGULATIONS.

NAME AND TITLE OF SHIPPER

EMERGENCY TELEPHONE NUMBER

ELISE ALLEN PROScientist Fremont, Ohio

919/334-2688 x 228

PLACE AND DATE

10/6/87

SEE WARNING  
ON BACK

ELISE E Allen

SHIPPER'S COPY

ENVIRONM  
C PROTECTION AGENCY  
of Enforcement

REF N 5

230 South Dearborn Street  
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME					NO. OF CONTAINERS	REMARKS	
OH523	Business Center							
SAMPLERS: (Signature) R. R. E. H. G.								
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION			
S-52	1/1/83	1039	X		Hole 1: 6-8 feet	1-16x3	X	
S-53	1/1/83	1118	X		Hole 1: 4-6 ft	1-16x3	X	
S-54	1/1/83	1225	X		Hole 2: 3-5'	1-16x3	X	
S-55	1/1/83	1315	X		Hole 3: 16-8'	1-16x3	X	
S-56	1/1/83	1315	X		Hole 3: 3'-5'	1-16x3	X	
S-57	1/1/83	0115	X		Hole 3: 6'-8'	1-16x3	X	
S-58	1/1/83	0200	X		Hole 4: 3-5'	1-16x3	X	
S-59	1/1/83	1030	X		Hole 4: 6-8'	1-16x3	X	
S-60	1/1/83	1200	X		Holes 5: 3-5'	1-16x3	X	
S-61	1/1/83	1210	X		Holes 5: 6-8'	1-16x3	X	
S-62	1/1/83	1225	X		Hole 6: 3-5'	1-16x3	X	
Relinquished by: (Signature)		Date / Time	Received by: (Signature)		Relinquished by: (Signature)		Date / Time	Received by: (Signature)
<i>R. R. E. H. G.</i>		1421 1/1/83						
Relinquished by: (Signature)		Date / Time	Received by: (Signature)		Relinquished by: (Signature)		Date / Time	Received by: (Signature)
Relinquished by: (Signature)		Date / Time	Received for Laboratory by: (Signature)		Date / Time	Remarks		
						BILL TO:		
						M A E C E P INC		
						17450 Halsted		
						Homewood, Illinois 60430		

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

51-21998



WADSWORTH/ALERT  
LABORATORIES, INC.

Sampling, testing, mobile labs

Since 1938

1600 Fourth Street, S.E./ P.O. Box 208 / Canton, OH 44701 / (216) 454-5809

September 3, 1987

Deanne Geile  
MAECORP  
553 76th Street, SW  
Grand Rapids, MI 49509

Re: OH523, Greiner's Lagoon Site

Dear Deanne:

We are pleased to be working with you on this project.  
In response to our telephone conversation on September 1 and 2, 1987,  
Wadsworth/ALERT Laboratories is submitting the following letter  
of confirmation.

1. Analytical Requirements

On September 3, 1987, Wadsworth/ALERT Laboratories anticipates receiving one hundred soils and one water sample from MAECORP to be analyzed for the following parameters:

PROTOCOL A - One Hundred Soils  
- 1 ppm lower detectable limit

<u>Parameter</u>	<u>Methods*</u>	<u>Fee/Sample</u>
Polychlorinated Biphenyls	SW846 8080	\$ 97

PROTOCOL B - One Water

<u>Parameter</u>	<u>Methods*</u>	<u>Fee/Sample</u>
pH	SW846 9040	\$ 5
Total Dissolved Solids	EPA 160.1	12
Total Suspended Solids	EPA 160.2	12
Dissolved Oxygen	DO Meter	12
Methylene Blue Active Substances	EPA 425.1	22
Ammonia Nitrogen	EPA 350.2	22
Oil and Grease	SW846 9071	22
Total Phenol	SW846 9065	30
Polychlorinated Biphenyls	SW846 8080	97
Volatile Organic Compounds	GC 601/602	238
HSL Metals	7000 Series (direct aspiration)	328

\*SW846 Methods are per Test Methods for Evaluating Solid Waste, USEPA, July 1982, 2nd edition.



CORPORATE AND LABORATORY: Canton, Ohio (216) 454-5809  
LABORATORY: Cleveland, Ohio (216) 642-9151  
LABORATORY: Bartow, Florida (813) 533-2150  
SOUTHEAST REGIONAL OFFICE: Lexington, South Carolina (803) 957-6590  
24-HOUR ALERT LINE: (216) 454-8304



WADSWORTH/ALERT  
LABORATORIES, INC.

2. Sample Bottles

Samples must be iced from time of collection until received at the lab. Receipt is expected within 48 hours of collection. Samples will then be refrigerated from time of receipt until time of analysis. The cost of bottles and preservatives for each sample, coolers, packing material and chain-of-custody documents is included in the unit price.

3. Quality Assurance/Quality Control

Our unit price includes adherence to and documentation of Quality Assurance/Quality Control protocols for each procedure listed above. Routine, matrix spike, surrogate spike and blank data will be provided. Copies of chromatograms will also be provided. The Quality Assurance/Quality Control program ensures acceptable accuracy, precision, and sample integrity for each analytical method.

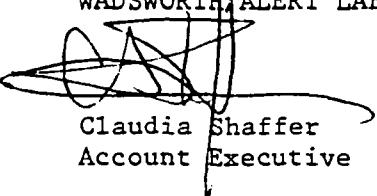
4. Reporting Format

Results will be available informally on Tuesday, September 9, 1987. A final report summarizing all data and Quality Assurance/Quality Control results will be received by MAECORP, Grand Rapids Office, no later than fourteen days following receipt of samples. A copy of the report will also be sent to Freddy Walker at the Homewood Office. Billing, including a carbon copy of the chain, will be sent to Accounts Payable at the Homewood Office.

Please address any questions regarding this proposal to me. We look forward to working with you on this project.

Sincerely,

WADSWORTH/ALERT LABORATORIES, INC.

  
Claudia Shaffer  
Account Executive

CS:mal

cc: Bob Peters  
Jon T. Laliberte

ENVIRONMENTAL PROTECTION AGENCY  
Office of Enforcement

REGION 5  
230 South Dearborn Street  
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME					NO. OF CON- TAINERS	REMARKS
STATION NO.	DATE	TIME	COMP	GRAB	STATION LOCATION		
OH523						PCB 1 ppm detection limit X	
SAMPLERS: (Signature)	<i>Ann Patchett</i>						
S28	9-2-87	1633	X		E ditch 300'	1-8oz X	
S30	9-2-87	1640	X		400' N. Base line	1-8oz X	Results + QA/QC to:
S41	9-3-87	1055	X		100' S, 25'E of mark	1-8oz X	Freddie Walker
S51	9-3-87	1155	X		NE area of tanker area	1-8oz X	MAECORP
S88	10-1-87	1420	X		Oil from NW area Lagoon 3	1-8oz X	17450 S. Halstead
S96	10-2-87	1420	X		oil lagoon #3	1-8oz X	Homewood, IL 60430
S98	10-2-87	1415	X		Sludge. South Lagoon #3	1-8oz X	
S101	10-2-87	1450	X		Sludge hole #1 Lagoon #4	1-8oz X	Verbals and hard copy to:
S108			X			1-8oz X	(fax initial results)
S109			X			1-8oz X	Edward Burk
R2			X			1-8oz X	9311 Grand Rd Gross Ile, MI 48138
<i>Samples to A + B Lab</i>							Fax # (313) 675 - 3677 office# (313) 675 - 3144

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Bill to: MAECORP 17450 S. Halstead Homewood, IL 60430	



## FACSIMILE COVER SHEET

Receiving party Edward Burke  
Sending party Analytic & Biological Labs, Inc.

ANALYTIC & BIOLOGICAL LABORATORIES, INC.  
29079 FORD ROAD  
GARDEN CITY, MICHIGAN 48135

Facsimile number (313) 422-1996

Todays date 6/10/88

Number of pages after this page 4

Contact person treddy Walker / Edward Bark

Telephone number /675/3144

## SPECIAL INSTRUCTIONS:

Tried Calling to give verbal (  
No answer to number given above)  
Have a nice day



**Analytic & Biological  
Laboratories, Inc.**

29079 FORD ROAD ■ GARDEN CITY, MICHIGAN 48135 ■ PHONE: (313) 422-7474 ■ TELEX: 234080

06-10-88

SAMPLE NO: SEE BELOW  
Page 1

MAECORP  
17450 S. HALSTEAD  
HOMEWOOD, IL 60430

FREDDIE WALKER

SAMPLE DESCRIPTION: SEE BELOW

TAKEN	RECEIVED
SEE BELOW	06-06-88

13551	S-28	ABL 7443		
	PCB Soil Analysis	8.1 (Aroclor 1260)	ppm	10
13552	S-30			
	PCB Soil Analysis	8.9 (Aroclor 1260)	ppm	5
13553	S-41			
	PCB Soil Analysis	< 1.0	ppm	11

ANALYTIC & BIOLOGICAL LABORATORIES, INC.

*[Signature]*  
Francis B. Mc Laughlin, FAIC  
Director of Laboratories

CERTIFIED LABORATORY - U.S. DEPARTMENT OF AGRICULTURE  
U.S. DRUG ENFORCEMENT ADMINISTRATION  
UNITED STATES FOOD AND DRUG METHODOLOGY  
UNITED STATES NUCLEAR REGULATORY COMMISSION  
AMERICAN COUNCIL OF INDEPENDENT LABORATORIES  
INSTITUTE OF FOOD TECHNOLOGISTS



FELLOW - AMERICAN INSTITUTE OF CHEMISTS  
DIPLOMAT - AMERICAN BOARD OF BIOANALYSTS  
AMERICAN CHEMICAL SOCIETY  
AMERICAN SOCIETY FOR MICROBIOLOGY  
UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS  
ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS


**Analytic & Biological  
Laboratories, Inc.**

29079 FORD ROAD ■ GARDEN CITY, MICHIGAN 48135 ■ PHONE: (313) 422-7474 ■ TELEX: 234080

06-10-88

**SAMPLE NO: SEE BELOW**  
**Page 2**

MAECORP  
 17450 S. HALSTEAD  
 HOMewood, IL 60430

FREDDIE WALKER

SAMPLE DESCRIPTION: SEE BELOW

TAKEN	RECEIVED
SEE BELOW	06-06-88

13554	S-51			
		PCB Soil Analysis	1.6 (Aroclor 1254)	ppm 6
13555	S-88			
		PCB Soil Analysis	11.3 (Aroclor 1254)	ppm 0.1
13556	S-96			
		PCB Soil Analysis	11.0 (Aroclor 1254)	ppm

ANALYTIC &amp; BIOLOGICAL LABORATORIES, INC.

Francis B. Mc Laughlin, FAIC  
 Director of Laboratories

CERTIFIED LABORATORY — U.S. DEPARTMENT OF AGRICULTURE  
 U.S. DRUG ENFORCEMENT ADMINISTRATION  
 UNITED STATES FOOD AND DRUG METHODOLOGY  
 UNITED STATES NUCLEAR REGULATORY COMMISSION  
 AMERICAN COUNCIL OF INDEPENDENT LABORATORIES  
 INSTITUTE OF FOOD TECHNOLOGISTS



FELLOW — AMERICAN INSTITUTE OF CHEMISTS  
 DIPLOMAT — AMERICAN BOARD OF BIOANALYSTS  
 AMERICAN CHEMICAL SOCIETY  
 AMERICAN SOCIETY FOR MICROBIOLOGY  
 UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS  
 ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS



**Analytic & Biological  
Laboratories, Inc.**

29079 FORD ROAD ■ GARDEN CITY, MICHIGAN 48135 ■ PHONE: (313) 422-7474 ■ TELEX: 234060

06-10-88

SAMPLE NO: SEE BELOW  
Page 3

MAECORP  
17450 S. HALSTEAD  
HOMEWOOD, IL 60430

FREDDIE WALKER

SAMPLE DESCRIPTION: SEE BELOW

TAKEN SEE BELOW	RECEIVED 06-06-88
--------------------	----------------------

13557 S-98

PCB Soil Analysis < 1.0 ppm

13558 S-101

PCB Soil Analysis < 1.0 ppm

13559 S-108

PCB Soil Analysis 53.6 (Aroclor 1260) ppm

ANALYTIC & BIOLOGICAL LABORATORIES, INC.

Francis B. Mc Laughlin, FAIC  
Director of Laboratories

CERTIFIED LABORATORY - U.S. DEPARTMENT OF AGRICULTURE  
U.S. DRUG ENFORCEMENT ADMINISTRATION  
UNITED STATES FOOD AND DRUG METHODOLOGY  
UNITED STATES NUCLEAR REGULATORY COMMISSION  
AMERICAN COUNCIL OF INDEPENDENT LABORATORIES  
INSTITUTE OF FOOD TECHNOLOGISTS



FELLOW - AMERICAN INSTITUTE OF CHEMISTS  
DIPLOMAT - AMERICAN BOARD OF BIOANALYSTS  
AMERICAN CHEMICAL SOCIETY  
AMERICAN SOCIETY FOR MICROBIOLOGY  
UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS  
ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS



**Analytic & Biological  
Laboratories, Inc.**

29079 FORD ROAD ■ GARDEN CITY, MICHIGAN 48135 ■ PHONE (313) 422-7474 ■ TELEX: 234080

06-10-88

SAMPLE NO: SEE BELOW  
Page 4

MAECORP  
17450 S. HALSTEAD  
HOMEWOOD, IL 60430

FREDDIE WALKER

SAMPLE DESCRIPTION: SEE BELOW

TAKEN	RECEIVED
SEE BELOW	06-06-88

13560 S-109

PCB Soil Analysis	32.3 (Aroclor 1260)	ppm
-------------------	---------------------	-----

13561 R-2

PCB Soil Analysis	< 1.0	ppm
-------------------	-------	-----

**ANALYTIC & BIOLOGICAL LABORATORIES, INC.**

Francis B. Mc Laughlin, FAIC  
Director of Laboratories

CERTIFIED LABORATORY - U.S. DEPARTMENT OF AGRICULTURE  
U.S. DRUG ENFORCEMENT ADMINISTRATION  
UNITED STATES FOOD AND DRUG METHODOLOGY  
UNITED STATES NUCLEAR REGULATORY COMMISSION  
AMERICAN COUNCIL OF INDEPENDENT LABORATORIES  
INSTITUTE OF MASS TECHNOLOGISTS



FELLOW -- AMERICAN INSTITUTE OF CHEMISTS  
DIPLOMAT -- AMERICAN BOARD OF BIOANALYSTS  
AMERICAN CHEMICAL SOCIETY  
AMERICAN SOCIETY FOR MICROBIOLOGY  
UNION INTERNATIONALE DES LABORATOIRES INDEPENDANTS  
ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS

6-9-88

-IST OF SAMPLES PACKED IN NORTHEAST CORNER  
OF SITE

Small box

S27  
✓ S29  
✓ S31 - S38  
✓ 104  
✓ 105

Small box

✓ S39  
✓ S42  
✓ S46  
✓ S91 - S95  
✓ S97  
✓ S102  
✓ S103

Small box

S40 ✓  
S44-45 ✓  
S49 - ~~48~~ 51 ✓  
S47 ✓  
108 ✓  
109 ✓  
S1 ✓  
S1 ✓  
R2 ✓

Small box

S01 - S12 ✓

Small box

✓ S13 - S20  
✓ S23 - S26

large box 16 oz

✓ S43  
✓ S52 - S64  
✓ S68 - S73  
✓ S77 - S82  
✓ S84

(2) solidified shale

lime

Paint waste  
(lagoon #3)

"BURN'T TOAST"  
**WESTON**  
 MANAGERS DESIGNERS/CONSULTANTS

SHEET \_\_\_\_ of \_\_\_\_

CLIENT/SUBJECT \_\_\_\_\_ W.O. NO. \_\_\_\_\_

ASK DESCRIPTION \_\_\_\_\_ TASK NO. \_\_\_\_\_

PREPARED BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED BY \_\_\_\_\_

MATH CHECK BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

DEPT. \_\_\_\_\_

METHOD REV. BY \_\_\_\_\_ DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

DEPT. \_\_\_\_\_ DATE \_\_\_\_\_

Sally

1245

11/12/87

\* #43730 = S-89a : ? big question, no 1260 but  
GC said 13 ppm poss 1254 w/out all info  
can't quantify - is there

43731 = S-90a : No 1260 ("noway")  
GC said <10 but prob no 1254  
peaks don't appear to be PCBs

Sept 23 package

6 peak is Sulfur  
by <sup>at</sup> cleanup Sulfur

42366: <sup>5-6<sup>3</sup></sup> S, hole 6 6-8' poss 1248 or 1242  
→ Confirmation w/ lots of work needed  
- matrix spike done on this sample but not sure what Arochlor unknown

"hole 11" looks clean but Wads should have gone back + cleaned large peaks down

- Operator qualifications: operating inst + making judgements on chromatograms or

\* Sample vs Std Chromatograms

w/ some discrepancies, someone needs to look at this more closely i.e.: ESATW/SP Proj or CRL

\* ESAT said they would not get away w/ turning in chromatograms like Wads.

? 24 hour turn

? Assuming 1260

? Matrix Spike → what Arochlor

- ESAT has given opinion

GC, ERT, + Chemist  
that there is  
something  
done.

- Samples not homogenized  
- cores still there as cores.

VINCE → lewok

1. PREVIOUS KNOWLEDGE OF SAMPLE HISTORY WAS  
NOT UTILIZED BY ANALYST DURING ANALYSIS  
→ TEST METHOD EPA-600/4-81-045 SECTION 1.1

HISTORICAL DATA DOCUMENTED 1248/1254 ON-SITE  
(CLP-WADSWORTH-OEPA)

WADSWORTH ONLY LAB THAT DETECTED 1269,  
ERG & GULF COAST DETECTED 1254.

2. QUALIFIED GC OPERATOR - SEE CREDENTIALS  
SAME OPERATOR FOR ALL SAMPLES?  
→ TEST METHOD EPA-600/4-81-045 SECTION 1.3

3. "WHENEVER ANALYZED SAMPLES DO NOT PROVIDE  
CHROMATOGRAPHIC PATTERNS NEARLY IDENTICAL TO  
THE STANDARDS PREPARED FROM COMMERCIAL  
PCBs, THE ANALYST MUST CONFIRM THE PRESENCE  
OF PCBs BY ONE OF 3 WAYS: BY ANALYSIS  
AFTER COLUMN CLEANUP, BY ANALYSIS ON DISSIMILAR  
GC COLUMNS, OR BY GC/MS."

TEST METHOD  
EPA-600/4-81-045  
SECTION 1.3

WADSWORTH DID DO COLUMN CLEANUPS

DID THEY DO DISSIMILAR GC COLUMN?  
WHY NEVER GC/MS REQUESTED?

↑  
NOT BEST WAY OR RECOMMENDED

CLIENT  
SATISFACTION  
IE. NOT  
METHOD

4. SECTION 3.4 OF TEST METHOD

NOT DONE IN ALL CASES (42877)

BUT WOULD  
HAVE  
HELPED TO  
POSSIBLY  
ID  
INTERFER-  
ENCES

5. PRESENCE OF DIPHthalates + PHENOLS MAY CAUSE

MATRIX INTERFERENCE + PROBABLY DID BUT THEY  
WERE NEVER POSITIVELY IDED

6. WHAT IS Hg CLEANUP METHOD?

7. DATA WAS REISSUED WITH QUALIFIER NARRATIVE

- AT LATER DATES -

8. INCONSISTENCIES IN DATA PACKAGES

WHAT KIND OF  
PACKAGE WAS REQUESTED + WHAT SHOULD  
THEY INCLUDE?

MS/MSD/BLANKS

9. MS SAMPLES NOT CARRIED THRU ENTIRE CLEANUPS

WADSWORTH

~~DATE SPECIFIC~~

SEPTEMBER 17, 1987

NARRATIVE

- 1 H<sub>2</sub>O + 49 SOLIDS
- 2 MATRIX SPIKES /MSD
- SOLID + LIQUID BLANK

SEPTEMBER 23, 1987 NO NARRATIVE

- 1 H<sub>2</sub>O + 22 SOLIDS
- 2 MATRIX SPIKES /MSD
- LIQUID BLANK + SOLID BLANK

SEPTEMBER 17, 1987 NO NARRATIVE

- 11 SOLIDS
- 1 MATRIX SPIKE /MSD
- 1 SOLID BLANK

OCTOBER 2, 1987 NARRATIVE

- 1 OIL
- MATRIX SPIKE - NO CHROMATOGRAM
- 1 OIL BLANK - NO CHROMATOGRAM

OCTOBER 13, 1987 NARRATIVE

- 2 SOLIDS
- MATRIX SPIKE - NO CHROMATOGRAM
- BLANK BUT NO CHROMATOGRAM

TMA OCTOBER 21, 1987 NARRATIVE DATED OCT. 28, 1987  
NO QC TO COMPARE FOR PCB  
DD AND 1254 COMPARED TO ND

GULF COAST OCTOBER 13, 1987 NARRATIVE DATED OCT 27, 1987  
- NO MENTION OF MATRIX INTERFERENCE FOR  
ELEVATED DETECTION LIMITS  
- NO MENTION OF CLEANUP BESIDE FLOROSIL

89/90 - GC HAD  $\oplus$  OTHERS ND

74 - MI

83/65 - SAME ND

# Verbales - Gulf Coast

Called in  
1640 Nov. 3.

	mg/kg	
25 91	<10	(oil leaching from #2 + soil)
↑ 92	<1	
93	<1	
surface	<1	
↓ 94	<1	
95	<1	
oil 96	20	arochlor 1254
sludge 97	<1	
98	13	1254
" 99	17	1254
" 99a	16	1254
44. 100	<20	<del>other</del> peaks present not appear PCB's.
↑ 101	<1	
102	<1	
103	<1	
↓ 105	4	

Received 11-4-87  
0940

Was called into Freddie Walker



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METHOD REV. BY \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_ DEPT \_\_\_\_\_ DATE \_\_\_\_\_

Sample Results from Gulf Coast Lab  
Date: 7/1/86 Time: 11:00 AM Place: Plum reporting

Sample #	Result (include ash/char)	Comments
S-91		
S-92		
S-93		
S-94		
S-95		
S-96		
S-97		
S-98		
Dup [ S-99 S-99a		
S-100		
S-101		
S-102		
S-103		
S-104		
S-105		